Fall 2018

Avoiding the Real World

Ryan Oeckinghaus
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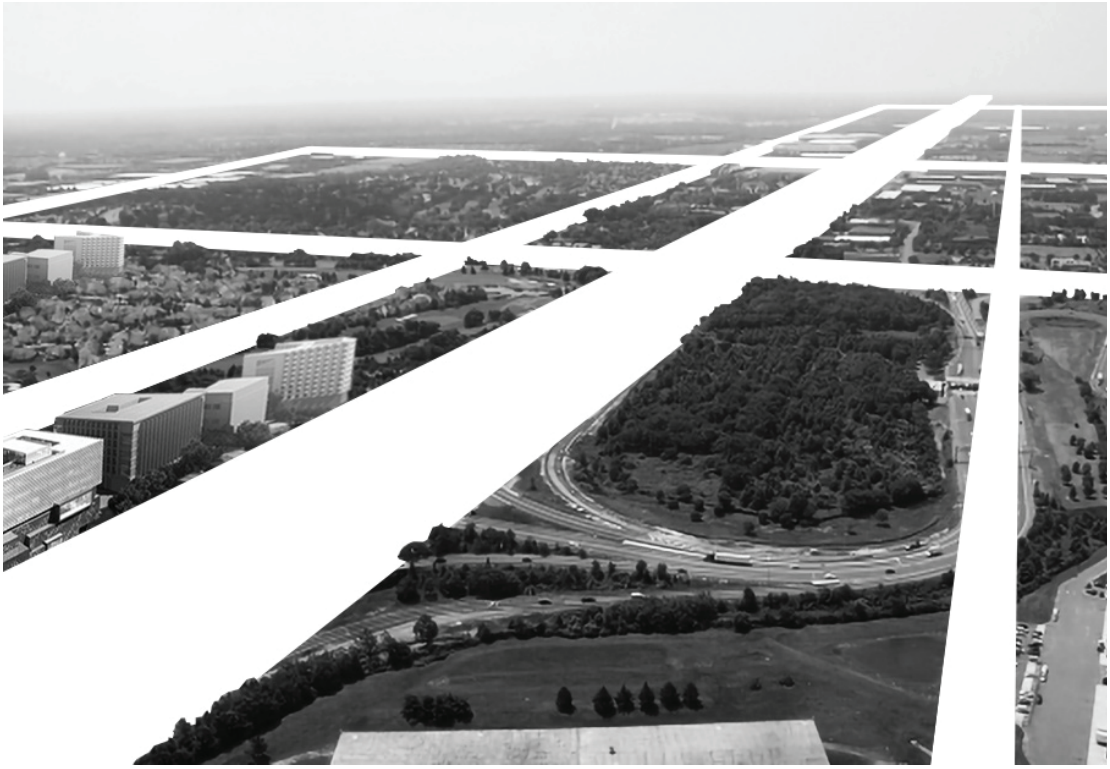

SYRACUSE UNIVERSITY
SCHOOL OF ARCHITECTURE

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B. ARCH THESIS PREP.

AVOIDING THE REAL WORLD

RYAN OECKINGHAUS

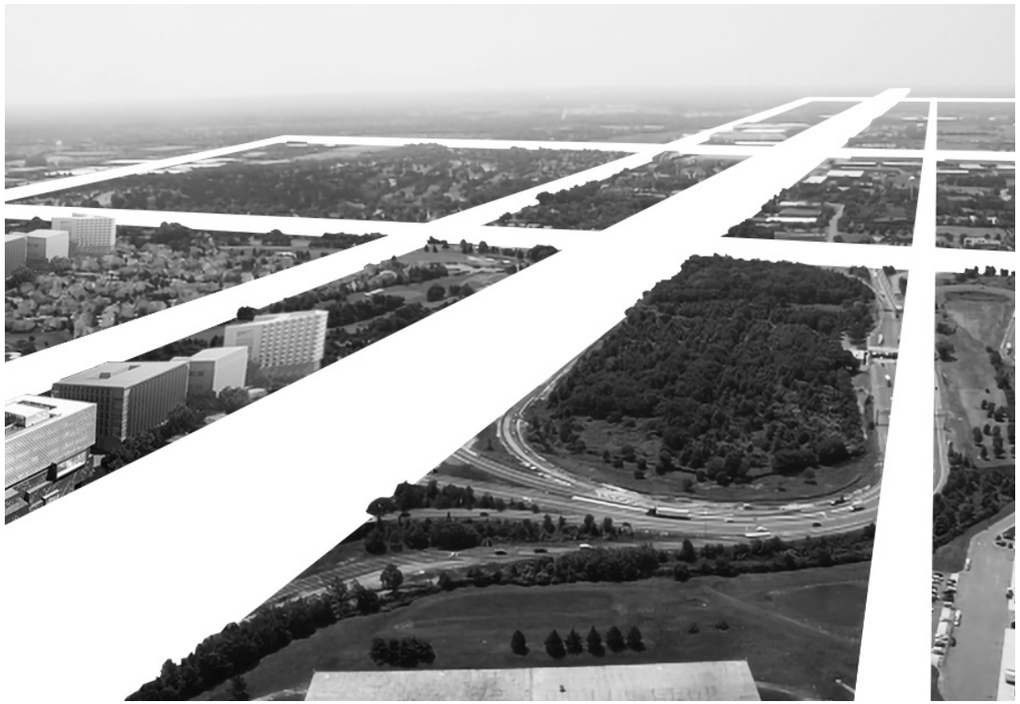
SYRACUSE UNIVERSITY SCHOOL OF ARCHITECTURE

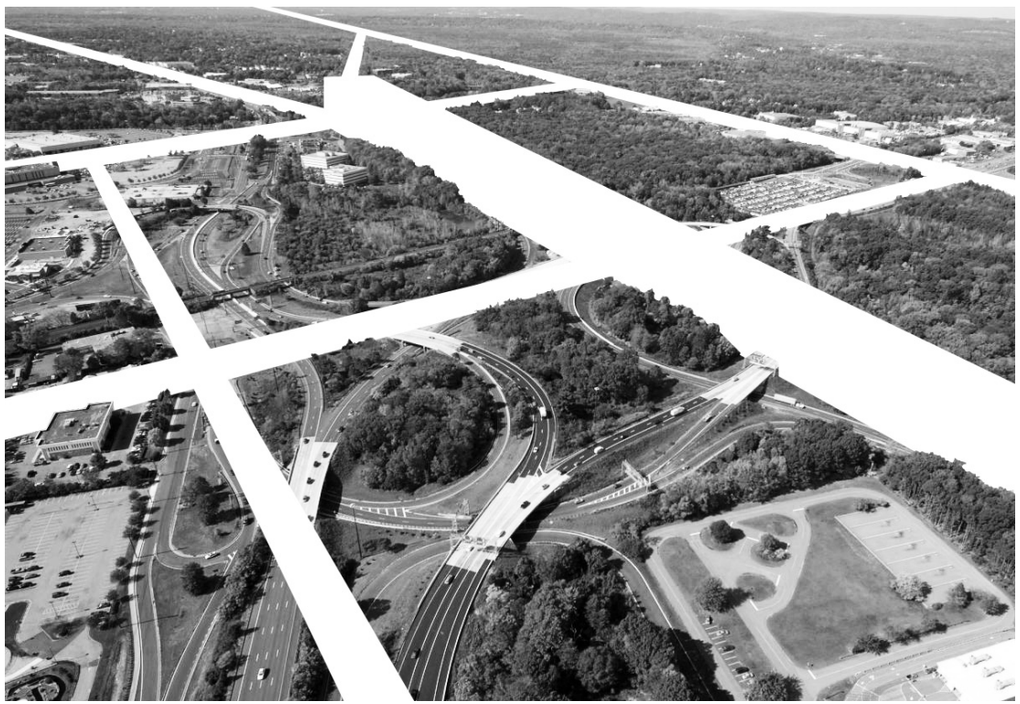
ADVISORS: **MITESH DIXIT** LAWRENCE CHUA LAWRENCE DAVIS

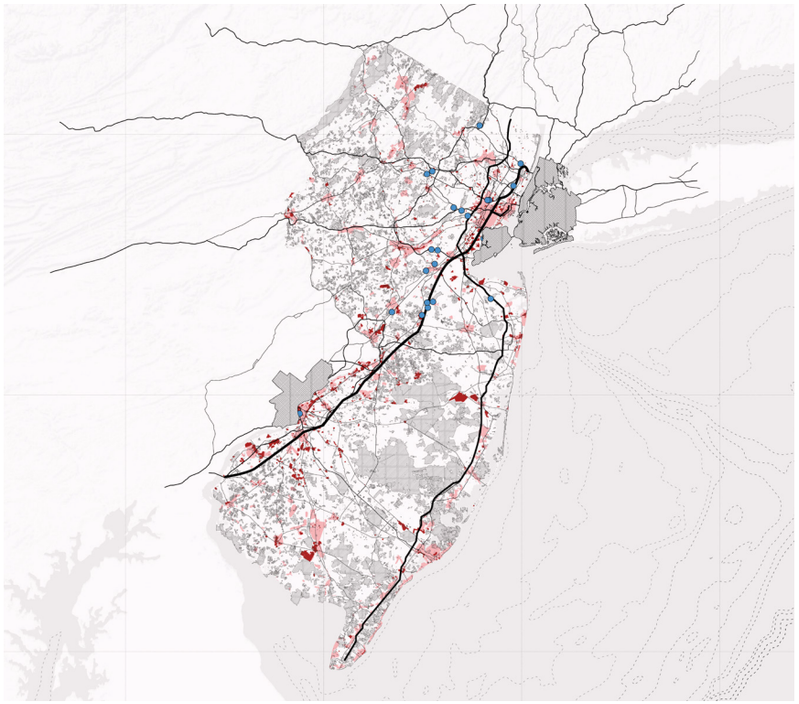
Your problems just called
They know where you are going
And they'll meet you there

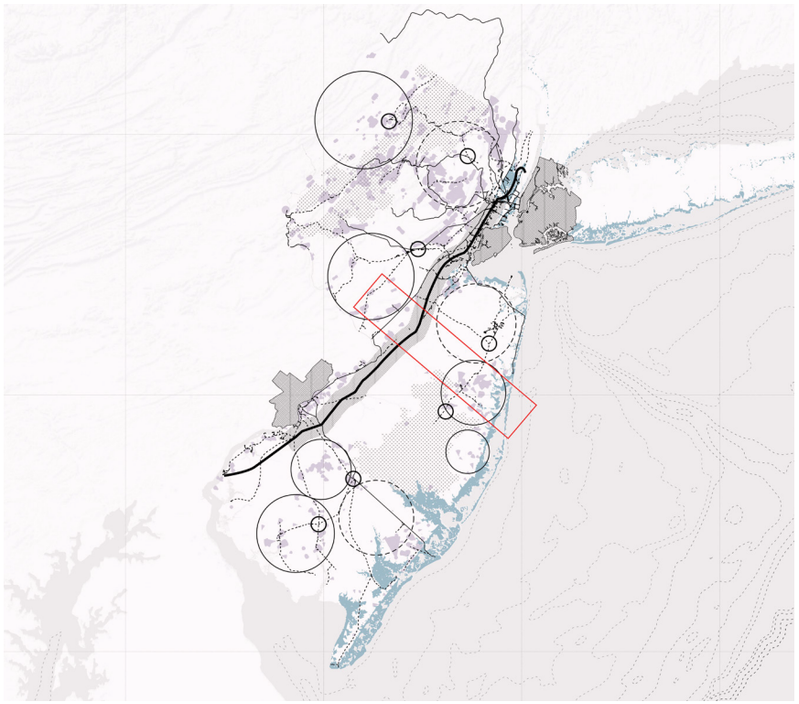
- Jonathan Rice

The haiku from Jonathan Rice's collection *Farewell My Dudes: 69 Dystopian Haikus* presents a statement about society's outlook on contemporary issues that this thesis seeks to reconcile. Governments, corporations, indeed the majority of the population, recognize the issues plaguing our world and are aware that they will only worsen. However, they do not act to remedy these issues. Continuing on this path, our problems will subsequently meet us with disastrous consequence. The title makes explicit this thesis' goal to avoid the real world not by dismissing the impending future, but by circumventing our inevitable decline through a critical reinterpretation of dystopian forces within the urban fabric.









This thesis, entitled Avoiding the Real World, postulates on alternative urban formations that could circumvent further decline in our current dystopian scenario. This takes the form of the redistribution of people and resources in New Jersey, a state of unique sprawl and density who's development has been driven by its relationship to the urban centers of New York and Philadelphia. It proposes a renewed interest in the linear city model as a means of effectively densifying the land area and allowing the reappropriation of space for agricultural and clean energy supply, functions that have long been subordinated to home ownership and the expansion of the middle class in New Jersey's suburbia. This is a critical urban investigation into rethinking the flawed conception of cities and urbanity by focusing on the territorial implications of planning systems. It focuses on the fundamentals of the state's built environment to show a model of how an altered urban fabric and new urban typologies can be both critical of and suggest a remedy for the effects of the world's dystopian descent.

CONTENTS

THE CONTEXT

UTOPIA/DYSTOPIA

The format of this investigation gains agency through the Utopia/Dystopia distinction. Agency is an important leading topic due to the conversation started by Manfredo Tafuri with the arrival of his book Architecture and Utopia. In this seminal piece, Tafuri develops a history of the architectural discourse as it has grappled with the presentation of utopian ideals and the realization of capitalism as the mode of production in society. The development of the capitalist city is seen as a mediation between the shock of the urban form (new values, high pace and markedly different character of space) and the role of consumption within the capitalist society. Consumption led to the pedagogical function of architecture in the city, where the urban fabric became a way of orienting the user to the methods of capitalism. These components lead to his explanation of ideology, that architecture has entirely lost its agency in speculative design, instead functioning as a player in the ideology of capitalism, disguising the true societal relations at play. Architecture in his view merely acts as another way to hide the true workings of the capitalist machine from the inhabitants of the city. The criticality of the built environment is lost.

While not everyone agrees with his decidedly pessimistic view, it is important to understand the possibility of a loss of agency in design, and take strides to unveil and respond to some of the detrimental underlying structures at play.

This opens up the Utopia/Dystopia distinction, and the necessity of a consideration of dystopia in design versus the uncritical utopian paradigm. Notably, the impossibility of a utopia's existence and its conclusory aspects relinquish any critical stance on the present. This is directly evident in the built "Utopian" planning projects of the early modernists. Produced post-war, there was a rare opportunity for replanning and growth; in fact a necessity for it. A plethora of projects were developed at the time, striving to portray a new way of living, a better organization of society. The goal though was unfortunately conclusory; it projected a final, non-adapting picture of society, cities and housing as they thought it should be, without being truly critical about the development of society and planning up to that point. The clean slate gave an opportunity for this, and led to many projects that failed to reach their grand ambitions, such as Robin Hood Gardens by the Smithsons and Henry Ford's Fordlandia, as well as urban developments like the city plan for Brasilia by Oscar Niemeyer or Le Corbusier's vision for Chandigarh.

Conversely, a dystopia is inherently dialectic and is linked to the realities of the processes and systems that have defined our current age. While mostly defined as an inverse or negative version of a Utopia, I latch on to the more accurate definition posited by Franco Berardi, who states that "Dystopia is the likely future - the probable, expectable, almost unavoidable future." A dystopian scenario is one where societal systems have reached their limit, and have thus revealed the negative effects inherent in the adoption of such systems. This is without doubt the situation we exist in today, as our world is declining socially, environmentally, some may say ethically, which is revealing the underlying flaws in our societal organization. The revelations of dystopias (the unveiling of these underlying flaws) makes them a critical tool for engaging with the driving forces of our destruction; they show a moving picture of what the world was, is, and will be, always considering the next step. The concept of dystopia and the acknowledgment of the possible degeneration or need for adaptation in any project, from housing blocks to city plans to the organization of nations, anticipates an emphasis on non-conclusory design that both responds to the systems at play now and envisions the need for later responses to new, unforseen systems.

ARRIVAL IN DYSTOPIA

It is necessary to understand and unpack this current age as a dialectic, declining, and quickly actualizing dystopia, which is occurring both within and without the field of architecture and urban planning. The overarching dystopia of our time comes directly linked to the pervasion of capitalism and necessity of growth. This section will expand on our current condition as a dystopian image of capitalism and then seek to outline the ways this dystopia has pervaded into the architectural discourse.

The stage our society is in has been described by a few varying but similar names. The most commonly used titles for our situation are late stage capitalism and extreme capitalism. These terms are used to outline a time period many consider to be the end of our current conception of capitalism (late stage implies a finality or a transformation of the system) and describe the extent to which the capitalist system has grown and affected our world (extreme). Some of the key dystopian aspects include the proliferation of unnecessary and detrimental growth, linked to the over-consumption of natural resources and energy, the domination of giant transnational corporations and their near complete control over capital, and an amorality of fiscal decisions.

The domination of transnational corporations is one of the key driving aspects for the other negatives stemming from late capitalism. Their need for growth and efficiency of production produces multiple crises, in the categories stated previously. Concerning the environment, there exists an inefficient and increasing fossil fuel use, which cannot be adequately explained, solved, or predicted by conventional capitalist views. The neo-liberal ideology does not create links between the methods and the effects, and thus self perpetuates a cycle where the damages caused must be solved using the same system that caused them. This produces what are called “sink costs,” essentially a process where the use of more energy and materials produce more waste and therefore have more environmental impact. Jeremy Grantham, an investor with a long track record of accurate market predictions and economic writing, embodies our situation in the quote “we face a form of capitalism that has hardened its focus to short term profit maximization with little or no apparent interest in social good.” This statement embodies the immoral outlook of corporations within this era of capitalism, showing the hypocrisy and absurdity that runs rampant. One striking example is a recent Budweiser advertising campaign where, in an attempt to show their “good deed” in donating 100,000 dollars worth of clean water, they spent a total of approximately 5 billion dollars.

This immorality continues into the conception of freedom within capitalism. You are essentially deemed “Free” to sell your labor now, “Free” to compete with people across the globe, who are also “Free” to sell their labor at a fraction of yours. The free market under the control of these companies develops a problem through their domination of the four factors of production: entrepreneurship, capital goods, natural resources, labor. The first three are controlled by the wealthy, which allows for an aggressive and easily imposed limit on the value of labor.

These scenarios have all led to one of the most vital crises: a persistent consumption crisis. The incessant need for efficiency of production leads to overproduction, where companies cannot sell the amount of product that can be manufactured. Through the development of the global market and the location of ever cheaper labor sources, this crisis keeps getting pushed back, but is nearing a tipping point. As a result of this overproduction, intense growth and a reduced movement of capital from the average global consumer, companies are sitting on excess cash with nowhere to put it. Demand is down, but somehow growth must go on.

The issues of late stage capitalism have also notably made their way into the architectural discourse.

As noted in the previous section, Manfredo Tafuri writes about the effect of capitalism and ideology on architecture's agency, but also expands to more specific effects, as does Franco Berardi, Walter Benjamin, and Nathaniel Coleman. Tafuri begins the narrative with the explanation of a consumption led pedagogical function of architecture in the city. This describes the urban fabric as a way of orienting the user to the methods of capitalism. As previously stated, he writes that architecture has lost its agency in speculative design and instead functions as a player in the ideology of capitalism, disguising true societal relations. Walter Benjamin develops the initial link between architecture and capitalism, noting that the beginning of consumer society is marked by the initial commodification of items. This led to the emergence of private citizens and by extension the emergence of a private domain (separating the home and the workplace), as well as the spatial realization of the capitalist system in the arcades (the spatialization of Tafuri's pedagogy argument). Within a capitalist system, the separate interior is a place of illusion, an ideological tool, that is then strongly contrasted with the factory, which is a space witness to the reality of capitalism.

"Modern architecture, as a whole, was able to create, even before the mechanisms and theories of Political Economy had created instruments for it, an ideological climate for fully integrating design, at all levels, into a comprehensive Project aimed at the reorganization of production, distribution and consumption within a capitalist city."

Nathaniel Coleman bring these arguments into the late capitalist stage that I have been unpacking. Similar to the economists cited previously, he explains that modernization became dystopian in its efficiency of production; it produced the development boom as capitalism harnessed these efficiencies. Therefore, architecture as a tool of capitalism can only realize this current developing dystopia because of the emphasis on organized modes of production, consumption and social control.

How does all of this lead to architectural solutions? Coleman, sitting at the same standpoint as I that dystopia is essentially realized in our cities, believes that it can only be remedied by a renewed preoccupation with the social dimension of architecture. Franco Berardi argues for systematic changes against the negatives of capitalism, such as reduction of labor time and a redistribution of resources to combat the impending economic slump from overproduction.

It is necessary to explore these possibilities, linked with a necessary increase in infrastructure, as the end of late stage capitalism can be directly linked to the end of cheap materials and energy. It is necessary to increase efficient public and electric transportation infrastructure, to maximize the return on energy investment as energy prices skyrocket. These methods can be implemented at a large enough scale with a redistribution of the excess capital from overproduction. Putting the money back into the people who will spend it, or simply back towards the people, with government use that can create infrastructure at the same efficiency level as the modern economy. The current tax cuts and inadequate revenue limits the government's ability to solve infrastructure problems. With this scenario as our context, this thesis will therefore seek to employ some of these strategies to attempt to remedy the aforementioned dystopian effects of late stage capitalism by speculating on using built form, urban planning and infrastructure to redistribute people and resources outside of the preconceived capitalist notions and intentions.

MISCONCEPTIONS OF CITIES

A crucial part of this thesis tackles urban planning. In order to redistribute people and resources in New Jersey, it must be understood how planning has typically proceeded. This thesis seeks to debunk the typical notion of cities as a planning paradigm and shift toward the notion of territory as a key organizational factor. The concept and development of the city has been tackled by many writers in the architectural and planning professions, but I reference Neil Brenner as he summarizes well the issue with cities in his introduction to Implosions/Explosions. Essentially, cities follow suit with the previous discussion of architecture and capitalism. The city's form was derived from the early conception of living within a capitalist society, where there was a distinct outside and inside condition, the city and the rural. The rural is used to produce the goods to sustain the people in the city, where they worked other jobs and used capital in the new typology of the arcades, then shopping malls and strip malls. It is always seen as a dichotomy between these two conditions, both following flawed paradigms; the city bound to expansions from centers with size limits and infrastructural expansion issues, and the rural with sprawling suburban development taking up extra land and piggybacking on an automobile reliant highway system.

However, this paradigm is not how the organization of the built environment should occur. It simply categorizes and typifies environments based on what they have been conceived of in the past. The city we know and its relationship to the rural is simply the product of capitalist urbanization, and does not imply that it is the best form of density nor the most effective way of organizing the built environment. Yet, somehow, our current conception of the city is consistently the focus of urban planning. This thesis presents itself as an investigation into a territory around two existing cities and the land between it that the US calls New Jersey, in an attempt to follow up criticism about city development by proposing a radically different form of territorial organization that unifies the areas of Philadelphia, New York City, and New Jersey into one cohesive system.

AGAINST PLAIN PRAGMATISM

The goal in this thesis is to not present a solution employing what I am calling plain pragmatism. Pragmatism is, in the philosophical discourse, an "approach that assesses the truth of meaning of theories or beliefs in terms of the success of their practical application." This is not without its merits, since pragmatism at its root is a method that can concretely validate the application of theories and practices in the real world. However, there is a negative side of pragmatism when it is applied plainly, simplistically. Plain pragmatism proceeds from how we do things now and generates solutions with a status quo bias; the theories that are applied and validated through a successful application do not change how underlying systems work, but simply abide by the status quo and leave it in place. They can be seen as successful because they temporarily better some aspect of society, but the solution will inevitably fail because it still sits within the existing framework. The goal therefore is not to formulate solutions based on how New Jersey currently functions, but to critically evaluate how a dystopia has come to fruition based on the status quo, and take a critical speculative stance.

THE TESTING GROUNDS

This section begins to unpack the siting of this thesis. Named *Testing Grounds*, this portion seeks to introduce New Jersey as a state of density representative of the many national and global effects of late stage capitalism outlined in *The Context*. New Jersey is seen as a prototypical example of the misconception of cities explained previously, and this section shows blatantly the flaws of this misconception through an outline of the development of the state. This analysis of the state's development makes clear the negative underlying systems that this proposal seeks to tackle with the implementation of speculative urban form. The plan for the redistribution of resources and people in New Jersey will therefore start with a consideration of the dystopian elements in the region and attempt to set a precedent for alternative urban strategies to remedy the situation, a strategy that could be applied to other similarly affected regions. This proposal begs the question: How have the dystopian elements affected the area, and how can we reinterpret them to reduce the decline they are causing?

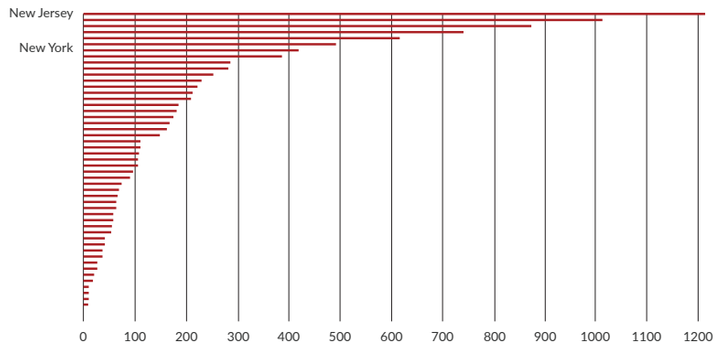
NEW JERSEY DEVELOPMENT

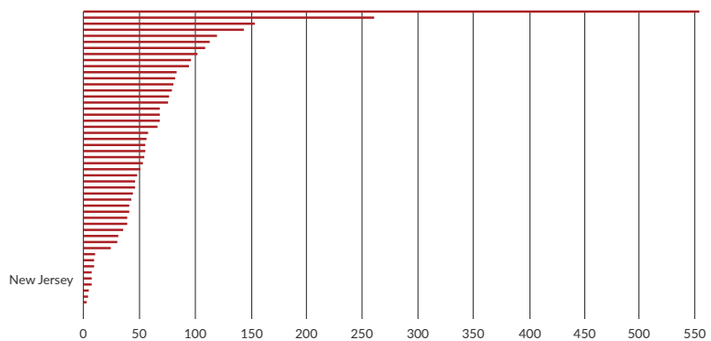
The unveiling of New Jersey's issues begins with how the state developed in terms of infrastructure, urban planning, industry, housing, and agriculture. New Jersey's history is almost completely due to its relationship with New York City and the city of Philadelphia, two of the largest urban centers on the Eastern seaboard. It is named the Garden State, surprising to many now, because of a recognition of its fertile soil in the 18th Century, but has since aggressively shifted its emphasis on agriculture to industry and the transportation of goods to, from, and between its neighboring powerhouse cities. Post-war, New Jersey developed as a manufacturing and distribution center, with its major cities Trenton, Jersey City, Newark, Elizabeth, Paterson and Camden all expanding to fill its economic role. Most of this manufacturing developed from emerging technologies such as radio and telecommunications, with RCA and Western Electric playing primary roles. This trend of the manufacturing of emergent technologies continued with Bell Labs locating themselves in the state, as well as Exxon Mobil, and a new precedent began to be set of the industrial laboratory; in this paradigm, research and development are closely linked to the manufacturing process. This all led to the development of New Jersey's cities in proximity to their neighbors New York and Philadelphia, where the technology and production could be implemented at increasingly large scales.

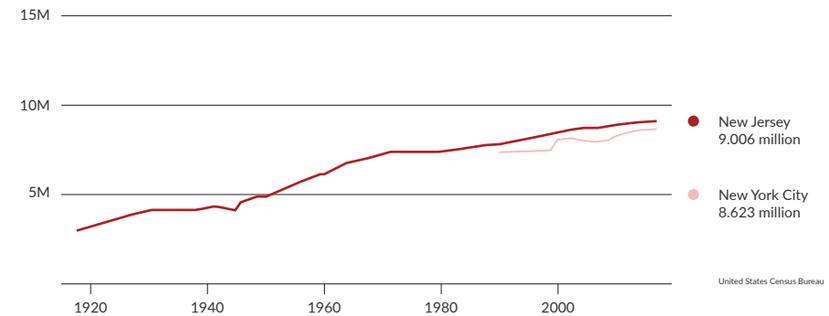
The key negative shift of New Jersey's development then took hold as the nation began to enter the information age economy at the end of the 70's, sparking the notion of "edge cities;" while people saw the suburbs as an increasingly opportune place to live and suburban sprawl took its full grip, companies determined that suburban sites would be ideal to host regional offices. This took advantage of the middle class demographic, mostly college educated and white dominated, that were moving to the suburbs. In this period of growth in the 1980's, 80% of all offices in New Jersey were built, primarily along major highways like Route 1, I-287, I-78, I-80, and most importantly the New Jersey Turnpike, which connects NYC and Philadelphia. This backed the automobile emphasis that came from suburban sprawl, and further cordoned off these higher paying research jobs from those in New Jersey's urban centers who couldn't afford a vehicle. Now, New Jersey is entering a stage where manufacturing is mostly outsourced due to the global economy and internet dependent global supply chains. The state is seeing a decline in the dominant pharmaceutical industry and telecommunications.

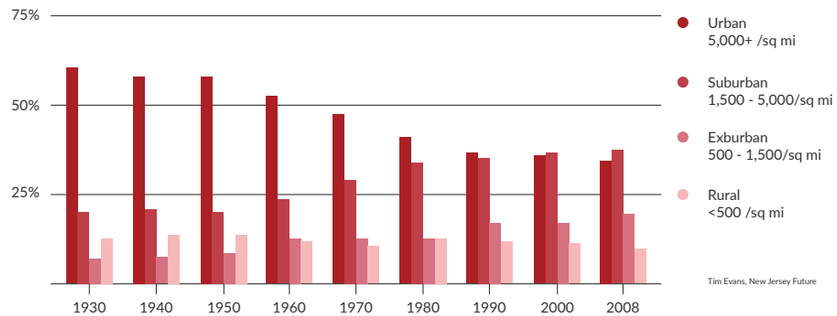
This development all leads to the picture of New Jersey as it is now, which is a state with the highest density in the US within the fourth smallest land area. As seen in the upcoming charts, the populationof the state is roughly equivalent to that of New York City and has grown recently at a similar rate. It is predominantly forest covered, due to the pineland and highland regions which are preserved and not suited for development or agriculture, followed by urban coverage.

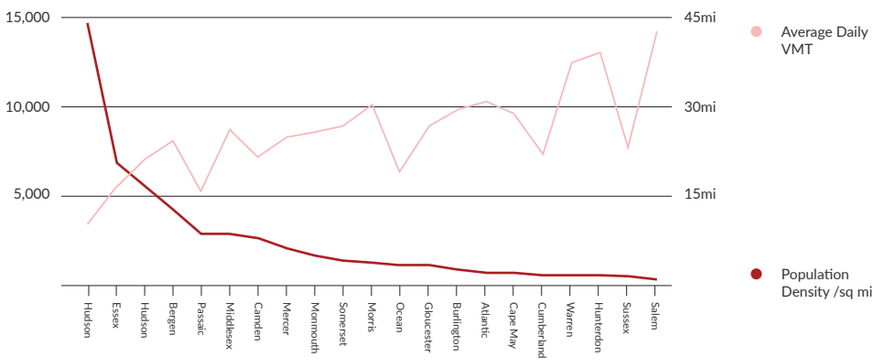
There is a high volume of dense suburban living that has only expanded as New Jersey grew, along with an equal decrease in urban living as people continue to leave the cities for the American Dream of home ownership. This leads to a heavy dependence on the automobile throughout the state, where most people travel between twenty and thirty-five miles a day, but through poorly developed, heavily trafficked infrastructure.






15M
10M
5M
1920
1940
1960
1980
2000
New Jersey
9.006 million
New York City
8.623 million
United States Census Bureau


75%
50%
25%
1930
1940
1950
1960
1970
1980
1990
2000
2008
Urban
5,000+ /sq mi
Suburban
1,500 - 5,000/sq mi
Exburban
500 - 1,500/sq mi
Rural
<500 /sq mi
Tim Evans, New Jersey Future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Hudson
Essex
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Bergen
Passaic
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Camden
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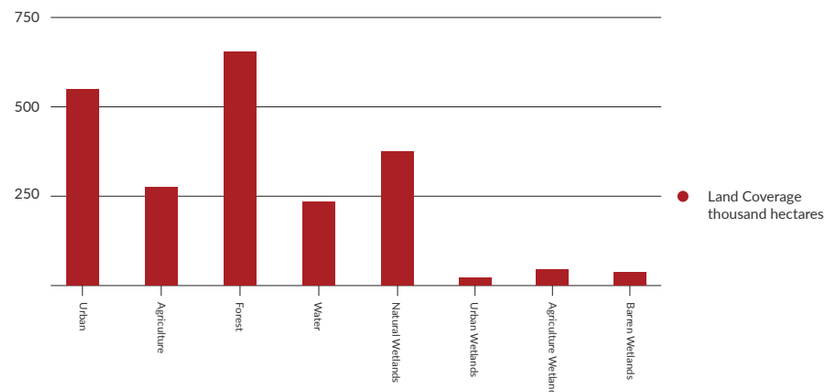
Monmouth
Somerset
Morris
Ocean
Gloucester
Burlington
Atlantic
Cape May
Cumberland
Warren
Hunterdon
Sussex
Salem
Average Daily
VMT
Population
Density /sq mi


750
500
250
Urban
Agriculture
Forest
Water
Natural Wetlands
Urban Wetlands
Agriculture Wetlands
Barren Wetlands
Land Coverage
thousand hectares

NEW JERSEY ISSUES

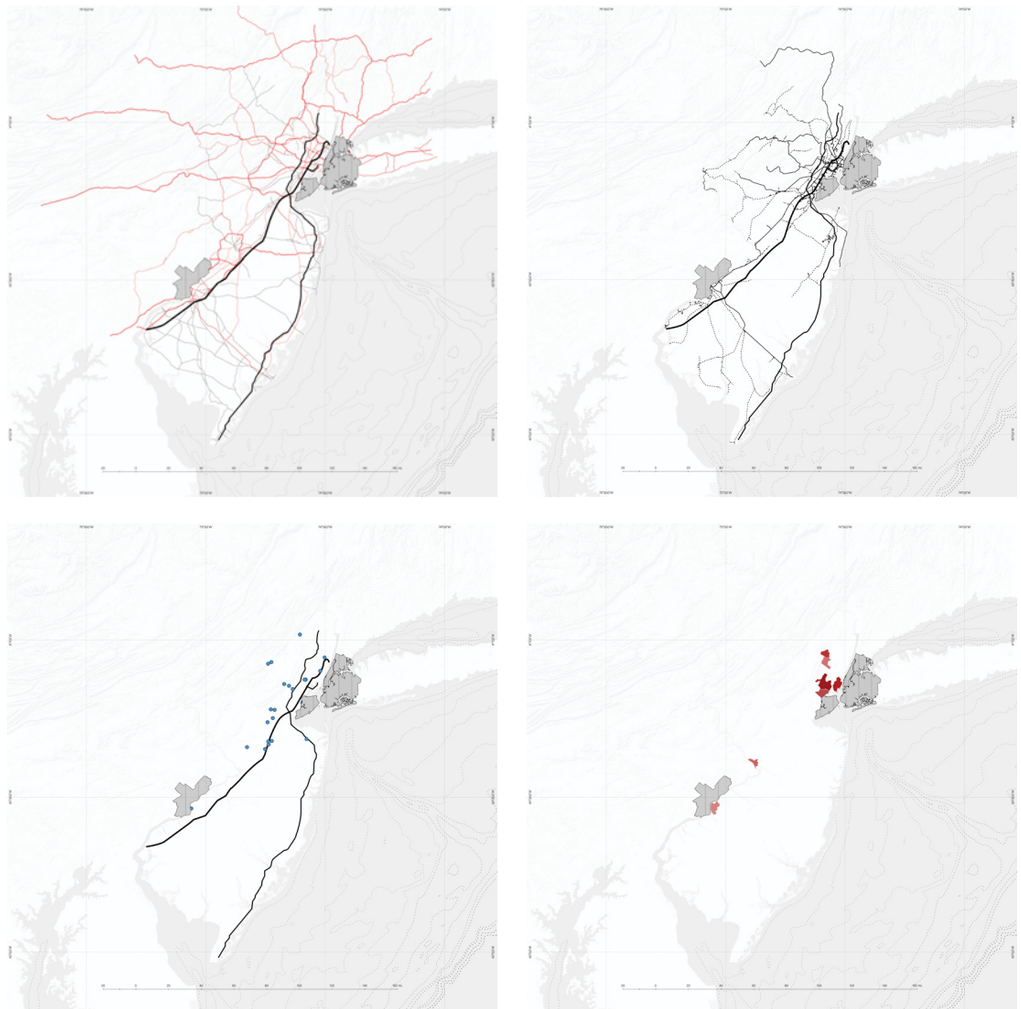
What are the underlying issues then that can be drawn from this history and the current picture of New Jersey? Possibly the most important is infrastructure and planning. The automobile dependent state precludes many people in the lower economic range from opportunities. This comes linked with the primary public transit systems. The trains are constantly argued to be beneficial to New Jersey development, and while there is a current trend of growth near transit hubs, the majority of trains go to one place - New York City. It is incredibly difficult to maneuver through the state using the rail system, as all paths converge on the nearby city. Additionally, the emphasis on home ownership has led to an ineffective use of land for sprawling suburbs, drastically cutting down land for agriculture. The state is unfortunately continuing with this trend of sprawl, as it exists in a period where “land consumption is increasing faster than the population is growing.” As in other parts of the country, land is consumed three to four times faster than the population grows.

People are merely being redistributed to new built areas. The primary cause of this, again, is the infrastructure; the traffic plagued highway system, the large suburban plots with poorly planned, snaking roads, the train system nearly only useful for NYC commuters. The suburban sprawl has also pushed other issues such as environmental decline to due oil reliance and automobile dependence, failing cities due to the need for home ownership and the shift of corporate centers to suburban outskirts, and a decrease in farmland to accommodate the ineffectual suburban growth. All of these issues spring from poor planning pushed by the states development, and needs to be reexamined, but instead is simply continuing.

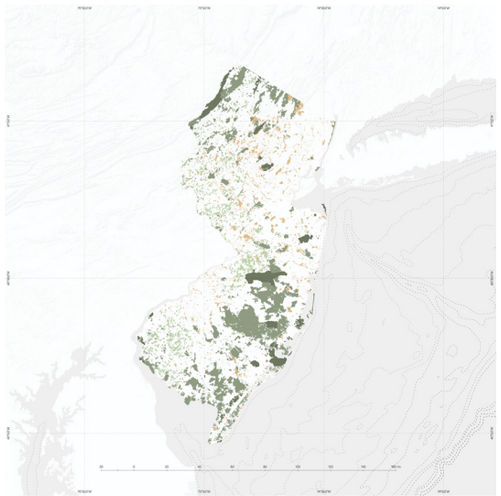
"The debate now under way will determine whether the population will continue to spread across the landscape or become more concentrated in the cities and older suburbs. It will determine, in short, what a built-out state looks like."

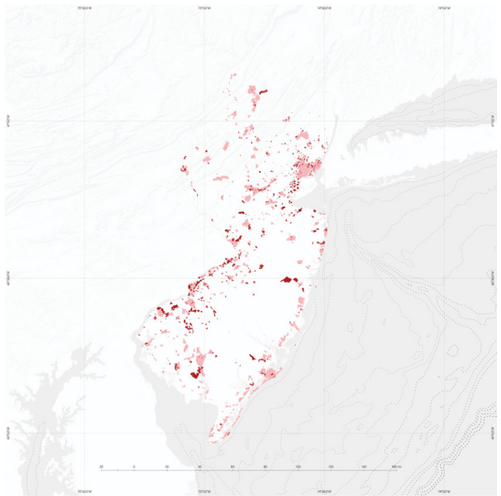
MAPPING THE CONDITIONS

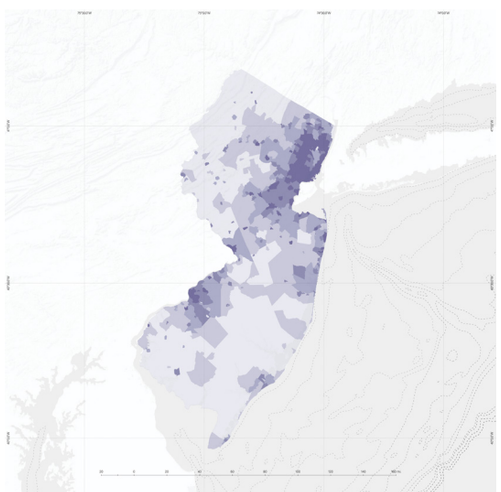
This section is dedicated to the representation of the existing conditions in New Jersey and drawing from them a proposal for the redistribution of people, resources and infrastructure in the state. The maps included show first these initial conditions: major roadways, the railway system, key industrial sites, the most populated cities, preserved land, urban centers, public well heads, future coastal flood regions, population density, contaminated sites, the spread of blue collar workers, and the key connective corridor, the New Jersey Turnpike. These all provide the basis for a planning understanding of New Jersey, and exemplify the points stated previously.

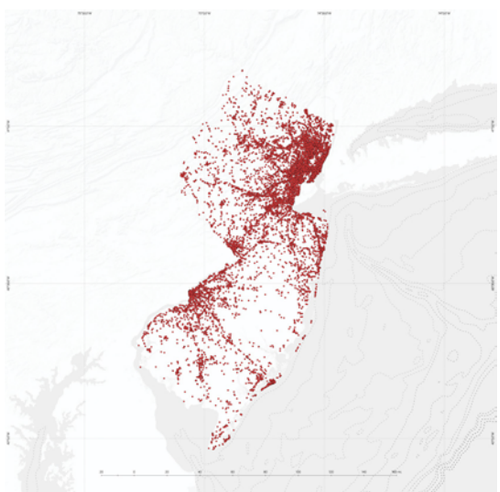


Major Roadways
Railway System
Key Industry Sites
Most Populated Cities

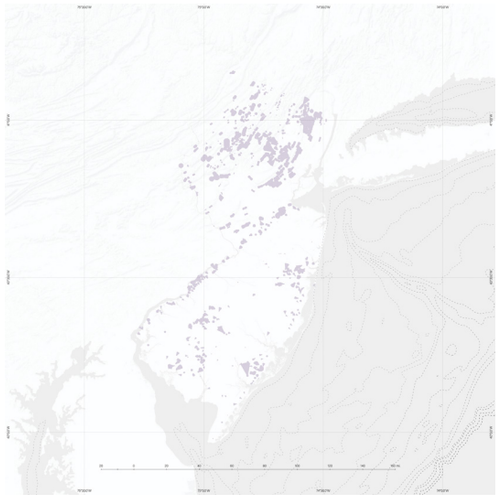


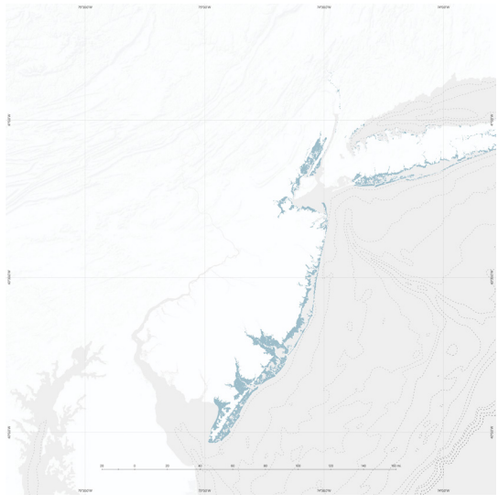


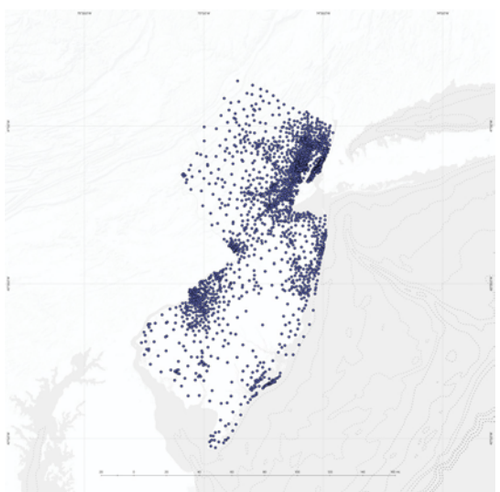


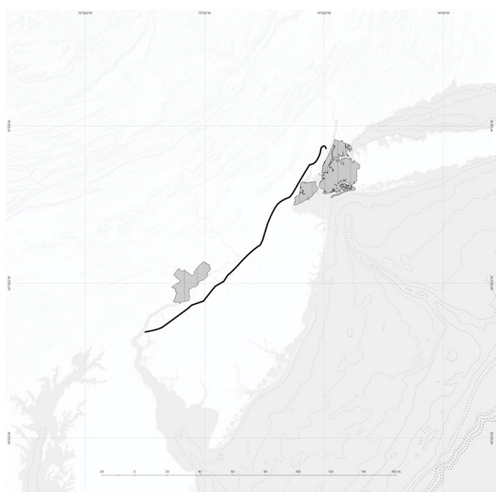


Preserved Land
Urban Centers/Redevelopment Areas
Population Density
Contaminated Sites

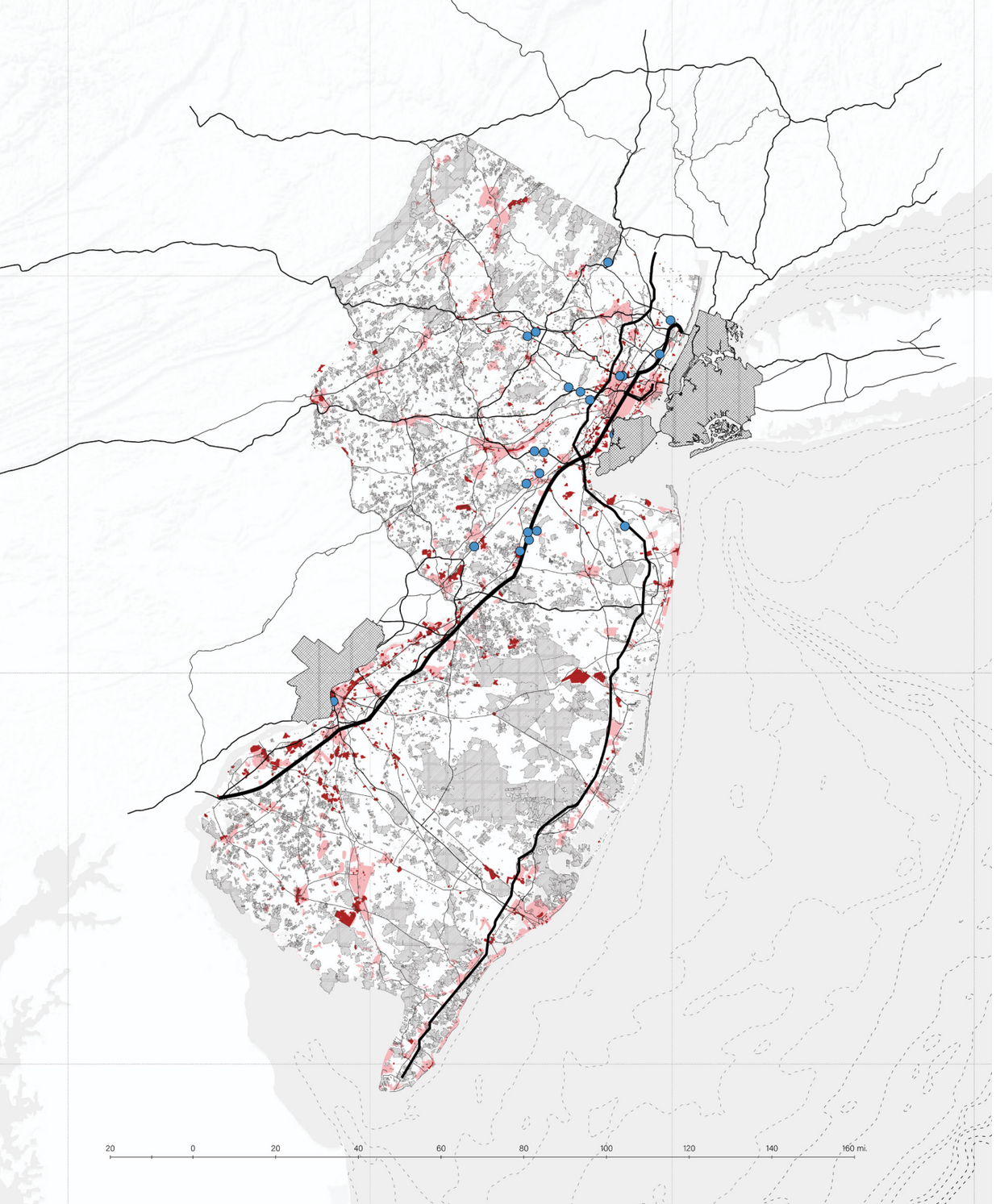








Public Well Heads
Flood Risk 2100
Blue Collar Workers
New Jersey Turnpike



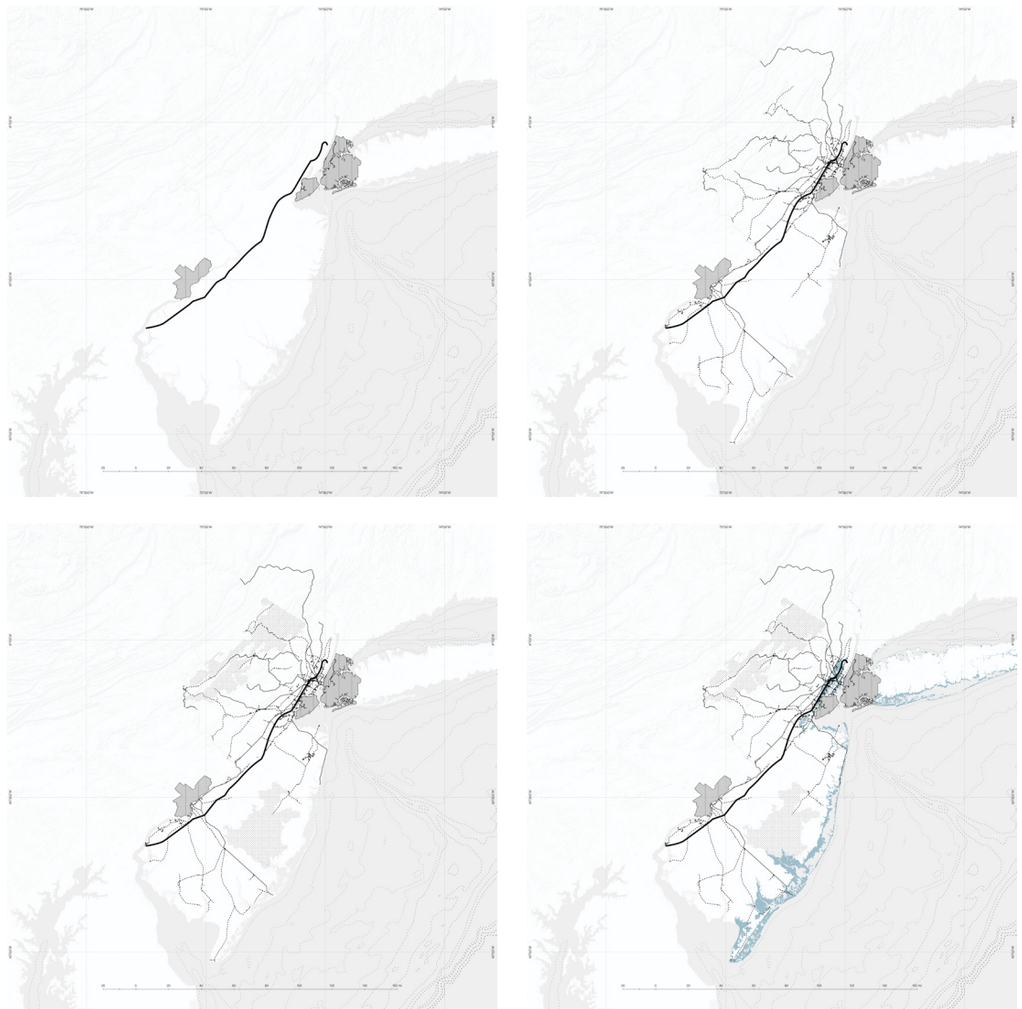
New Jersey is running out of developable land due to the large preserved areas, leading to a decrease in farmland used for increased sprawl. Urban centers tentatively follow the heavily trafficked roads, and the existing train system does not effectively connect the state. Automobile reliance allows only the middle and upper class to expand into the suburbs. New Jersey's ineffective sprawl is the most evident conclusion from this series of maps, and my proposal at this scale seeks to remedy it.

This last map overlays past maps, making evident a seam between the Pinelands and Highlands preserved areas, where the turnpike corridor connects New York and Philadelphia, home to key industry sites, open areas for development, as well as the state's most populated cities and a proliferation of the aforementioned suburban sprawl to be fixed. There is a zone between the cities that has the potential for densification and for providing a basis for a clear reorganization of a territory that is so clearly sprawled and deeply flawed by its misconception of urban planning and the city / rural dichotomy.

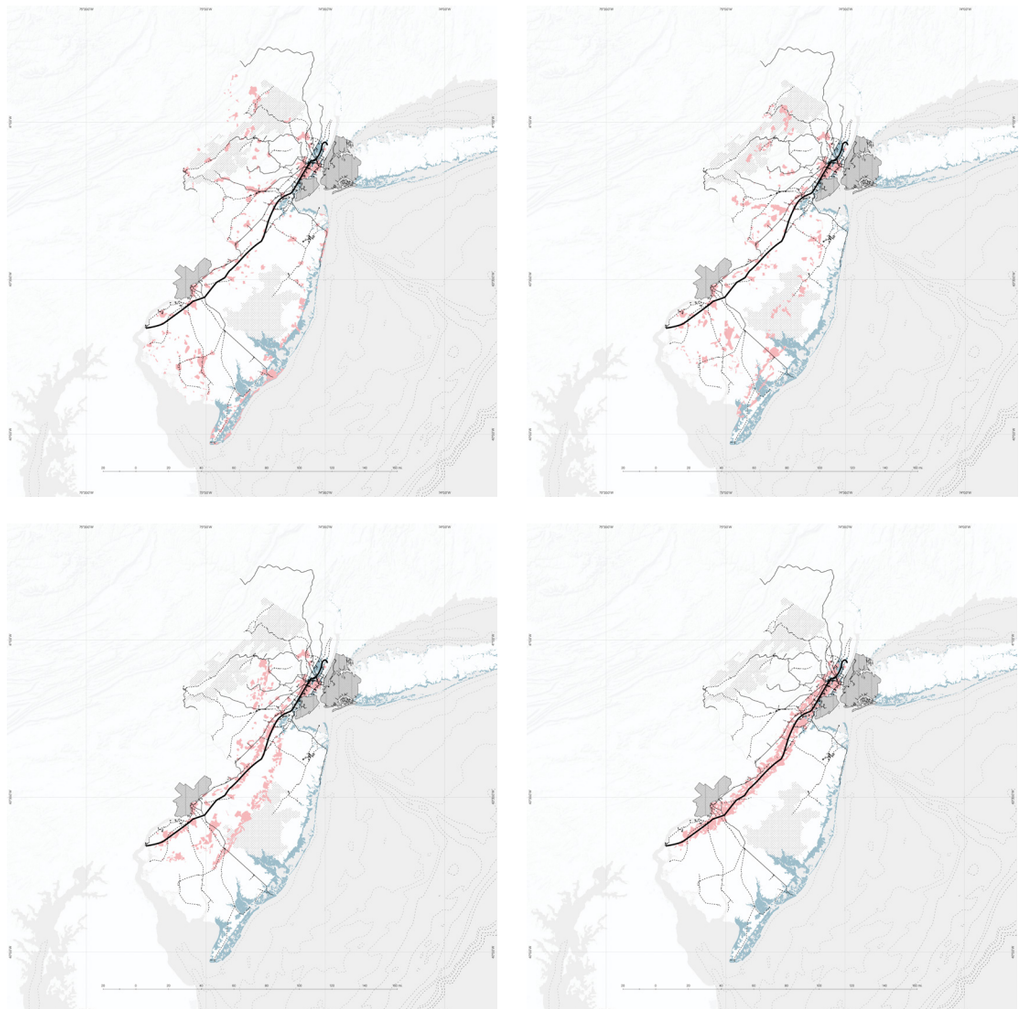
PROPOSAL - XL

The proposal for New Jersey at the state scale centers on the alteration of the primary corridor, the New Jersey Turnpike. This vital connective piece between New York and Philadelphia is where the urban centers and the population should be redistributed, as seen from the maps of the current conditions. This connective tissue harbors key industry development, minimal preserved land to avoid when developing, as well as the state's most populated cities and a proliferation of the aforementioned suburban sprawl to be fixed. The statewide proposal goes through a few key steps: identifying key constraints, relocating urban centers along the primary corridor, increasing the farmland, locating industry sites, and placing secondary transit hubs.

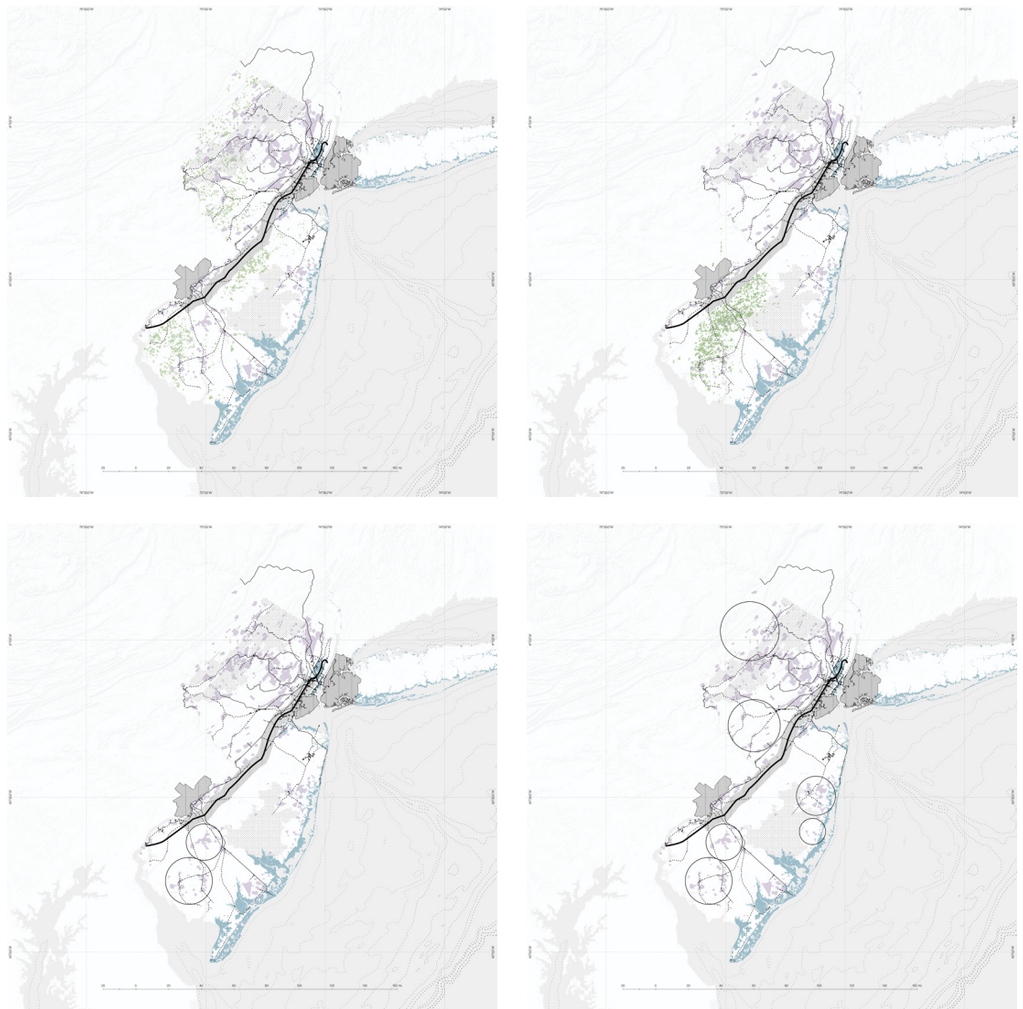
The maps on the right show the first steps, identifying the constraints for this proposal. These maps show the primary turnpike corridor as the location for redevelopment, the existing railways to be selectively adapted, preserved land that cannot be developed, and the projected sea level rise for 2100.

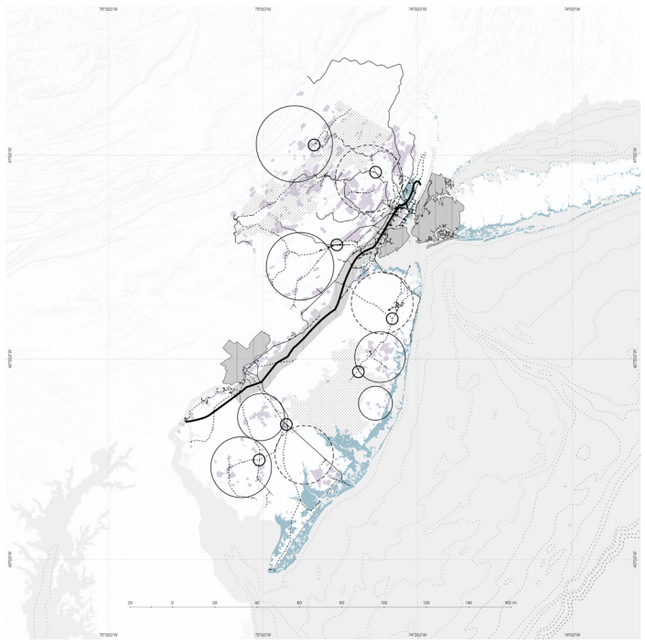


As stated previously, the proposal latches on to the existing New Jersey Turnpike, which will be transformed into a set of high-speed rails connecting Philadelphia and New York through the state. Taking the current locations of urban centers from the New Jersey State Development Plan, the first stage is re-densifying the state's population along this corridor. Shown in the maps to the left, the proposal takes the existing area of the state development plan's urban centers and shifts them to flank the new Turnpike rails. Within this zone will be a proliferation of housing and necessary amenities for the people living along the corridor.

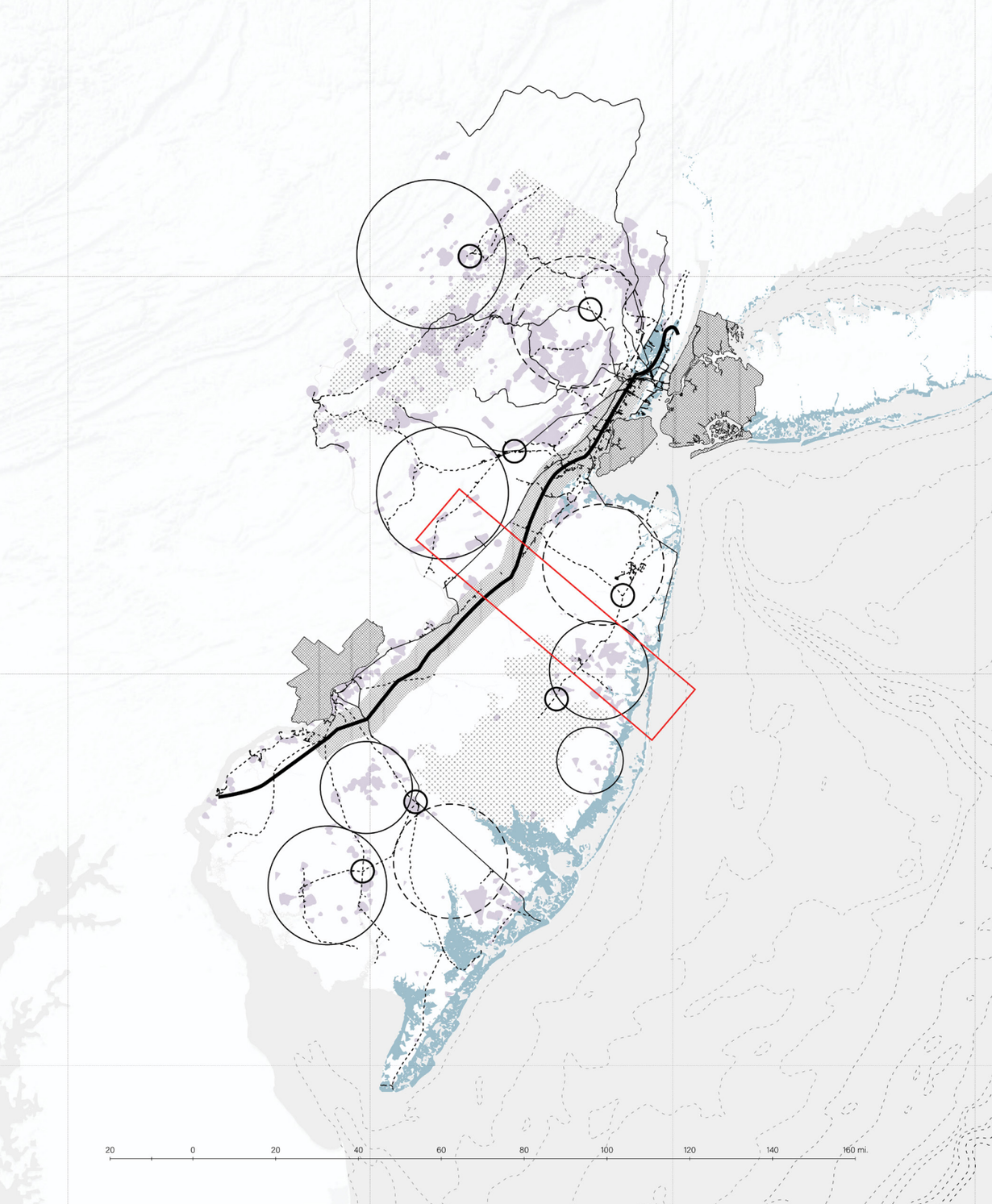


Now that the population has been relocated along the corridor, the newly vacant sprawl areas take the focus of the next step; increasing farmland. By overlaying the location of public wellheads that would be useful for irrigation, I begin shifting the existing agriculture to prescribed zones. Then I outline expansion zones within which more agriculture could take over, effectively tripling the land area of agriculture in the state. These zones are also determined by the constraints listed previously; they do not infringe on the rising sea level zones, they stay outside of the densified corridor, and they are situated along some existing railways that can be adapted to fit the new territorial scheme.





The next step highlights the locations of new industry zones, near some of the more dense regions, where the existing planning could be latched onto and slightly modified for accommodating the pharmaceutical, transport logistics and distribution, and advanced manufacturing sectors that are spread through the state. Afew industry zones are already located in these highlighted areas, and the existing infrastructure will be streamlined to fit out the now vacant areas and bring these goods back into the new corridor. Linked to the industry and agriculture zones is the final step, placing secondary transit hubs to bring back the goods and resources produced into the newly densified urban corridor. They can be spread to the residents of the state, to Philadelphia and New York, or exported.



This new scheme shows a more effective overall layout of the territory, redistributing people and resources through some of the existing infrastructure to combat the misuse of land and closure of the suburban sprawl paradigm. This system rejects the use of typical city planning paradigms and in doing so seeks to project a case study for the reinterpretation of other similar landscapes. The specifics of the replanning and new operation of this corridor will be outlined in the next section, as this proposal calls itself what it is, a linear city, and takes notes from the similar theoretical exercises that came before it, as well as Albert Pope's insights into urban planning.

THE LINEAR CITY

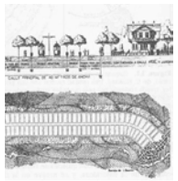
This section outlines the specifics of the replanning and new operation of the New Jersey Turnpike corridor as this proposal calls itself what it is; a Linear City. This investigation takes notes from the similar theoretical exercises that came before it by examining past linear city proposals for their specific successes and failures. A key aspect of my proposal comes from Albert Pope's insights into urban planning, and I use his history of the dissolution of the urban grid as well as his overlying urban typologies to formulate categories for the linear city projects based on their formal arrangements. I then extract three Pieces, which are different urban formations and apply them based on their potentials to effectively re-organize a segment of New Jersey based on my previous notions about New Jersey's planning failures.

PRECEDENT ANALYSIS

The linear city model was first developed in 1895 by Soria y Mata with his plan for Madrid, Spain called Ciudad Lineal. This scheme called for a connective tramline that would have housing plots along its length, spanning to and from existing urban areas. Ciudad Lineal and the proposition Roadtown by Edgar Chambless both envisioned the corridor as a contrast to the open fields surrounding it, and both conceived of a more modest style of architecture stemming from housing vernacular. Chambless and Mata's designs opened up the discussion for more modernist proposals, centered around the primary transportation axis with increasingly urban conditions. Some notable proposals came from socialist architects in Russia, such as the Linear City proposal on the Volga River by N. A. Milutin, which speculated on a parallel strip scheme of program outside the core circulation, and Magnitogorsk by Ivan Leonidov, whose project first included a truly gridded system of organization in the linear city paradigm.

The proposals that came after often came with other modernist ideals, with Le Corbusier's housing blocks evident in the Algiers plan or Hilberseimer's replanning proposal for Rockford Illinois, but the precedents all follow the same simple formula: A core transit system between existing urban centers that has attached program and housing. While an extreme example, even the movie Snowpiercer has the same typology, except the main transit system, the train, is what houses all the necessary programs.

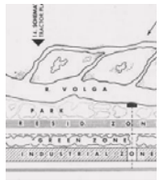
These precedents, coupled with the upcoming investigation into Albert Pope's Ladders, creates the foundational knowledge of linear cities and urban planning that my proposal stems from, including my characterization of pieces of urban forms and different types of linear cities.



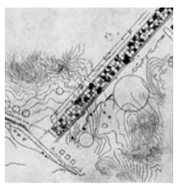
Ciudad Lineal 1
Arturo Soria y Matta
1895

Une Cite Industrielle 2
Tony Garnier
1904

Roadtown 3
Edgar Chambless
1910

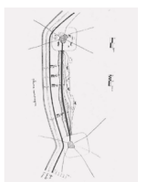


Linear City on the Volga River 4
N.A. Milutin
1929

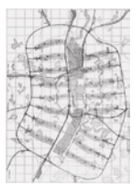


Magnitogorsk 5
Ivan Leonidov
1930

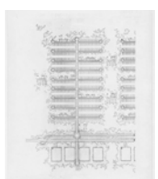
Algiers Plan 6
Le Corbusier
1933



La Cité Linéaire Industrielle 7
Le Corbusier
1938



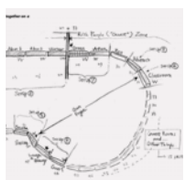
For London 8
MARS
1942



Settlement Unit 9
Ludwig Hilberseimer
1944

Replanning Rockford Illinois 10
Ludwig Hilberseimer
1950

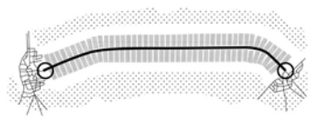
New Jersey Corridor Project 11
Michael Graves
1965



Snowpiercer 12
Bong Joon-ho
2013

The images to the left are the precedents that I examined to provide the pieces for my proposal for New Jersey. In order of conception, it is evident from these key images that they share key similarities, but also have different overall schemes. The format of this section as stated earlier takes these projects and breaks them down into categories by how they function. The categories are then taken and broken down into the pieces that form them.

The next pages exhibit diagrams of these project, breaking down the key aspects such as primary circulation, secondary circulation, transit hubs, and the allocation of residential, industrial and agricultural programs. Basic information is then drawn from them to give an overall view of linear city schemes, unveiling an emphasis on campus style distribution of buildings, typically mid-rise structures, and an emphasis on open space and mixed program in close proximity.



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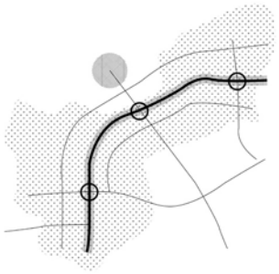

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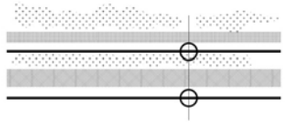

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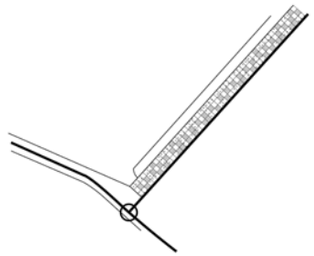

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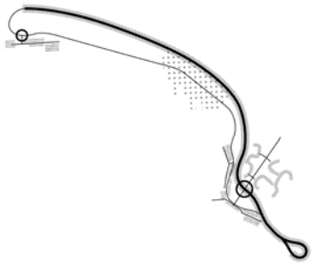

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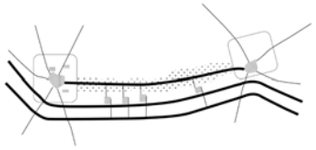

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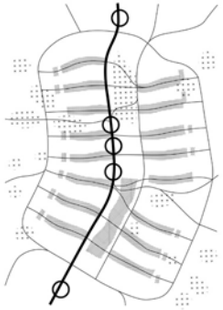

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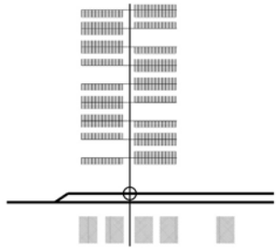

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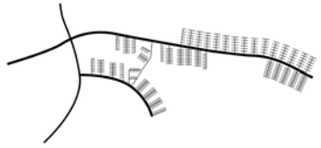

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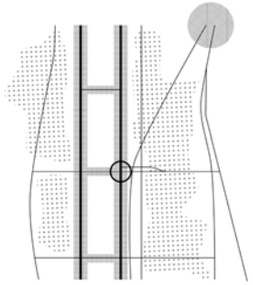


11

12

Ciudad Lineal
Arturo Soria y Matta
1895
Line
0.5
Residential, Agriculture
Villa
Rural
Families
Street Tram

1

Une Cite Industrielle
Tony Garnier
1904
Line + Grid
2.0
Residential, Industry
Mid-Rise & Villa
Urban
Working Class
Industrial Campus

2

Roadtown
Edgar Chambless
1910
Line
1.0
Residential, Agriculture
Mid-Rise
Rural
-
Open Fields

3

Linear City on the Volga River
N.A. Milutin
1929
Line
2.0
Residential, Industry, Agriculture
Mid-Rise
Campus
-
Parallel Strips

4

Magnitogorsk
Ivan Leonidov
1930
Line + Grid
3.0
Residential, Industry
High-Rise
Campus
Family, Working Class
Isolated Towers

5

Algiers Plan
Le Corbusier
1933
Line + Ladder
2.0
Residential, Industry
Mid-Rise
Campus
Immigrants
Highway atop Housing

6

La Cité Linéaire Industrielle
Le Corbusier
1938
Line + Ladder
1.5
Residential, Industry, Agriculture
Mide-Rise
Rural
-
Connecting Existing Centers

7

Plan for London
MARS
1942
Line + Grid
1.0
Residential, Industry, Agriculture
High-Rise
Campus
-
Redistrubute Space

8

The Settlement Unit
Ludwig Hilberseimer
1944
Line + Ladders
1.0
Residential, Industry, Agriculture
Mid-Rise
Campus
-
Element Repetition

9

Replanning Rockford Illinois
Ludwig Hilberseimer
1950
Line + Ladders
1.0
Residential, Industry, Agriculture
Mid-Rise
Campus
-
Element Repetition

10

New Jersey Corridor Project
Michael Graves
1965
Line
4.0
Residential, Industry
High-Rise
Rural
-
Level Program Seperation

11

Snowpiercer
Bong Joon-ho
2013
Line
1.0
Residential, Industry, Agriculture
Apartment
Rural
Survivors
Train

12

Project
Architect
Year
Type
FAR
Programs
Housing Type
Landscape
Demographic
Icon

LADDERS

Before developing the site and taking the lessons learned from those previously designed linear cities, this thesis draws inspiration from the book Ladders by Albert Pope, which traces the evolution of modern cities and urban planning. It makes critical standpoints on the effectiveness of various urban forms. This section examines some of the key points in Pope's seminal book and leads into the division of the linear cities into Types, and the designation of Pieces for the redevelopment of the area in New Jersey.

The main concepts of the book that I latch onto are within the chapters "The Open City" and "Urban Implosion." These sections seek to show the dissolution of urban form, and explain the fundamental shifting principles that have led to the state of our current cities. Most importantly, Pope coins the term "Ladders" as an oppositional urban form to the grid. He introduces his book with an analysis of urban thought and planning as it has progressed post-war, honing in on "the dissolution of urban form into the temporal values of transportation and communication networks." This evolution of urban strategies has changed the way the city functions and how architectural form functions within the urban scenario.

The privileged status of these transportation and communication networks has begun to close the city and has challenged the privileged status of architectural form itself. The city is no longer characterized by its form, as an abstract, autonomous logic, but by individual itineraries executed within the form itself, which has been playing against the positive qualities of the city's original spatial logic. What Pope lands on is a distinction between two different systems: the closed and centripetal system versus the open and centrifugal system.

He writes with an obvious push for and bias towards the grid as the open and centrifugal system, and explains how it began to function differently as urban planning shifted post-war. Pope explains that the grid is as an inherently open form for the city as opposed to the relative closure of contemporary urban space, which houses closed and exclusive urban forms. The grid can be read in multiple ways, and is often simplified and read as an icon for order. This however doesn't capture the actual implementation of a grid in space, which allows for a complex and adaptive heterogeneity. He explains the grid as inherently contradictory, in a beneficial way, where it is both predictable and indeterminate, both prescriptive and ambiguous. In this way, a grid can sustain order that is both strong and weak.

Within this notion of the grid he returns to the centrifugal and centripetal definitions, placing them in two distinct corners. A centrifugal grid is limitless, boundless; it is a continuing extension of a self similar field. This removes any "outside" condition to the centrifugal gridded system. The distinct, near opposite of this is the centripetal grid, which is inherently closed and bounded, and creates a strong, interior oriented organization that is distinctly different from outside its boundaries. This creates a "residual" figure of the grid within the outside condition, a scenario where the figure and form are polarized. Pope explains these two types of grids to exemplify the change in the dynamics of cities, namely that the contemporary city emerges as the closed, centripetal grid from the open, centrifugal basis of the pre-war city. This new centripetal grid is the urban precursor to the later term the Ladder, and leads to what Pope calls "urban implosion" and spatial closure. How does one get from a centrifugal to a centripetal grid system? Because of the phenomenon of grid erasure, which Pope takes a stance against, naming it the driver of the closure of cities. By erasing segments of the grid, one is not only changing the physical organization, but also dramatically changing how people move through the space and the fundamental effects and perceptions linked to the spatial organization itself.

"Grid erasure instigates a territorial reorganization that alters not only the perceptions of space and form, but existential realities such as isolation, historic continuity, and exclusivity, all which are bound up in associated patterns of use."

Once these grid segments are erased and the grid begins to close, the centripetal grid shifts to a new urban typology: the Ladder. The ladder is essentially a grid fragment cut off from the existing spatial field, a segment that has grid elements but is without its context. While this object is grid-like in its characteristics, there is a complete change it how it functions as an urban form. The unseen spatial qualities are quite the opposite of the grid-esque image it projects, for once a person investigates the field, the ladder is quickly seen to operate opposite of the centrifugal grid. It is finite, indivisible, and notably hierarchical in a way that the open grid is not. This object is both isolated and closed. Even within a grid context there is no opportunity for the ladder to function within the system due to its suppressive nature of action. There is typically a singular, exclusive route for transit, and the layout produces a very prescribed response, dividing and classifying its content. There are hard and soft boundaries, implied or made explicit in the form, and a limitation of what the user can choose to do within it. The ladder truly embodies the closed nature of the centripetal grid that Pope sees as its root.

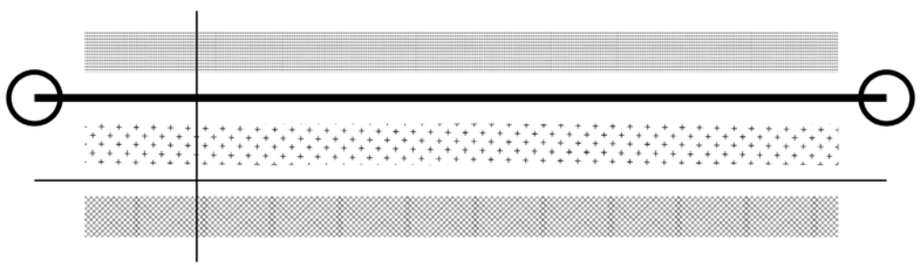
"As a finite grid fragment, cut off from its surrounding spatial field, the ladder manifests the characteristics of a closed, centripetal organization."

After marking out the centrifugal and centripetal difference and describing the creation and characteristics of the ladder, Pope continues his historical account of the creation of the ladder and the dissolution of the grid, beginning with an account of the linear cities methodology. The types of linear cities I outline later share characteristics with the two types he acknowledges, the band type and the spine. The band type is first acknowledged by the Volga River linear city proposal by N.A. Milutin. This scheme features independent parallel bands along a primary transportation axis, with no significant cross axis. The band type can therefore be theoretically unrolled to infinite extension. The other type, the spine arrangement, is what Pope starts to point to as a basis for Hilberseimer's planning methods, and the basis for contemporary thought against the gridded city paradigm. This type of linear city features independent axial parts crossing and intersecting with the spine. The spine then fills the role of transportation only, since any programmatic distribution is arranged along these lateral spines. These cross axis repeat and branch off for more development. These branches are essentially ladders coming off of the spine, without the broader spatial field.

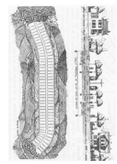
From this point, he coins Hilberseimer as the "prophet and prime theorist of the ladder," showing many of his proposals for redevelopment and reorganization as strikingly accurate depictions of the negative, fractured, closed and bounded cityscapes that would develop as urban planning shifted to a dissolution of the grid.

One important note is that while Pope does not consider this a type of linear city, he points to one project, Magnitogorsk by Ivan Leonidov as an example of a linear grid. His proposal shows a linear grid extending off of the existing transportation band, similar to the ladders in the spine schemes, but in a much different direction. The use of the uniform open grid creates a segment of centrifugal organization branching off of the transportation route, as opposed to the centripetal ladder. Thus, there are programmatic interactions, an absence of hierarchy, a unique interface between the parallel zones, and an access to open landscape within this attached piece. This knowledge from Pope, including the notable centrifugal versus centripetal organization, the grid, ladders, and the linear city types (including the linear grid) form the basis of my categorization and understanding of past linear city models and the basis of my later proposal for the reorganization of the urban fabric in New Jersey.

THE TYPES



Line

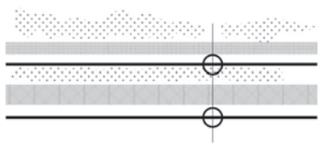


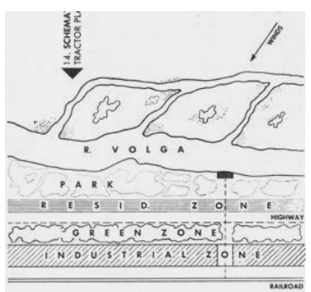

The types of linear cities I derived from the investigation of the aforementioned precedents are the Line, Line + Ladder, and Line + Grid, which correlate with Pope's categories the band, spine, and linear grid, respectively. Each category takes a different stance on how transportation infrastructure, program allocation, and density should be linked.

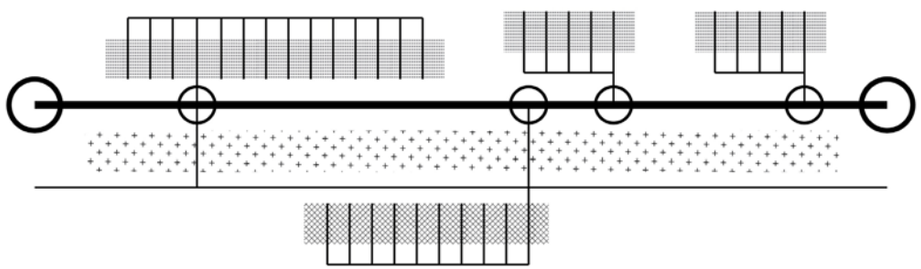
The line paradigm is the most simple, a connective transportation corridor with program disbursed directly adjacent, limiting any cross axial movement. This mode features a consolidated movement of goods and people along this efficient throughway, as well as constant direct access to housing and amenities, however it fails in its complete lack of lateral movement, and in that it's easy to break down, as seen in both the movie Snowpiercer and J.G Ballard's novel High-Rise. A point A to B connection is easily disconnected.

Linear City on the Volga River
N.A. Milutin

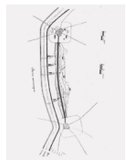
The proposal by N.A. Milutin along the Volga River was a scheme developed in the Soviet Union in 1929. This was the first linear city to make famous the Line type, and it was the first to do it so purely and at a large scale, succeeding Roadtown and Ciudad Lineal. This proposal is seen to roll without constraint or limit, infinitely between two points. The main infrastructural line runs parallel to other bands of program, with housing, agriculture, industry, and natural greenspace peeling off in layers. While this plan was not realized by the Russians, it did lead to an offshoot of built form near the Stalingrad tractor plant. This is a key precedent because it shows most clearly the Line model of linear cities, and even a basic analysis of the plan shows its intense limitations, with minimal if any clear cross axial paths. However, the division ofindustrial and residential program with massive spans of greenspace is a concept taken up by many other planners, including Hilberseimer in his replanning proposals.







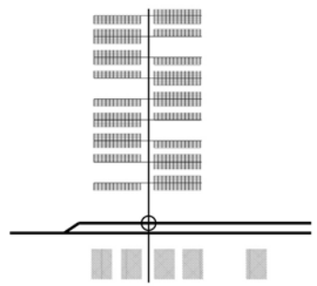
Line + Ladder

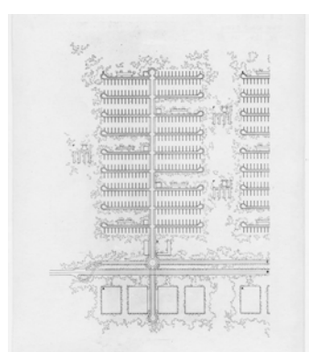



The line + ladders category begins to touch on these downfalls, with ladders extending from the transportation core out into the landscape. This creates connections away from the main transportation, allowing for a lateral reach of program, with many schemes emphasizing these ladders as potential connections to a natural landscape. Within this outer context, the ladders support a greater spacing of units and interstitial space for alternative uses. However, these ladders com with their issues, many of which are outlined by Pope. They are inherently hierarchical and closed systems that manipulate and limit the flow of people, which in turn is linked to many suburban issues such as congestion, reliance on non-public transit, and an isolation of elements from the core system.

The Settlement Unit
Ludwig Hilberseimer

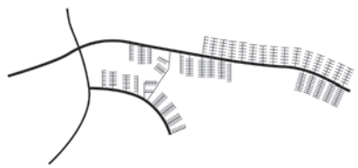
The Settlement Unit is essentially the first broadly used ladder in planning. While the dissolution of the grid was occuring at this time, Hilberseimer seemed to predict how development would proceed in the far future. The Settlement Unit is essentially a copy and paste blueprint for development across the United States. In his book *The New City*, Hilberseimer shows how he got to this scheme and more importantly how it could be adapted, producing diagrams showing how to locate this housing near industry based on the site's prevailing winds, or how to space the rungs of the ladder based on building height to allow for ample greenspace and sunlight in the apartments. The scheme is related to the Garden City but not oriented based on a central piece, instead each settlement unit is attached simply to broader infrastructure, connecting all the systems with a few main routes. This planning mechanism also came off of his earlier city concepts which were incredibly dense urban fabrics with little to no light access or greenspace. He almost took the opposite approach when shifting to this method, focusing on creating an open feel.

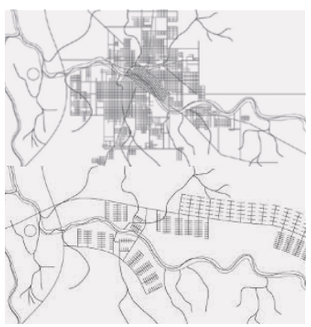


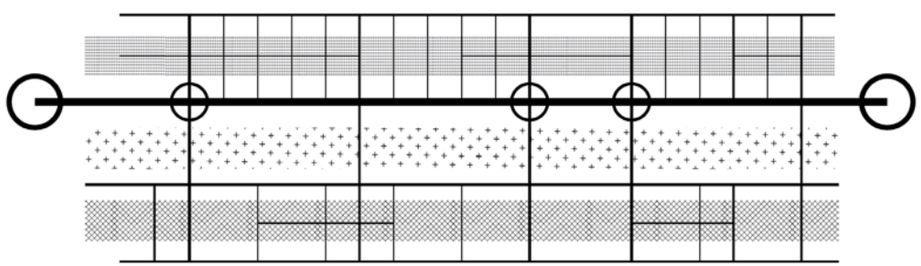


Replanning Rockford Illinois
Ludwig Hilberseimer

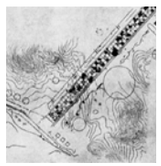
This proposal is an example of the application of the principles set out by the Settlment Unit, but it takes Hilberseimer's very accurate predictions of the future to new heights. The replanning of Rockford Illinois is a series of drawings, of which the start and end stages are shown here, describing hot to take the existing urban fabric and adjust it, step by step, to create a settlment that was in line with his urban planning principles and goals. This was a premonition of sorts of how existing urban fields would begin to integrate closed systems within the grid. It also shows a fairly accurate plan of how suburban plans were developed, with long, central corridors breaking off into increasingly small branches. While this plan definitely has its flaws, due to being a plan based on the proliferation of ladders, itstill shows a successful paradigm for altering existing urban fabrics. The multiple stages of design show a knowledge of the city and how it functions, and it slowly adapts its major infrastructure, working from a few small areas and changes out until the city has completely evolved. This periodic, slow change is necessary in any development.

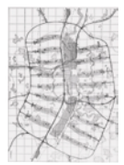






Line + Grid



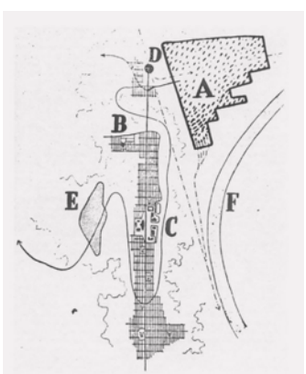


The final category, which is the basis for my linear city intervention, is the line + grid. An offshoot of the linear grid Magnitogorsk pointed to by Pope, the line + grid locates the linear transport core within a centrifugal grid system. The grid spans out from the center, allowing for multiple cross axis circulation paths, as well as additional circulation parallel to the main transit line. This method creates ambiguity and openness for the occupants and cuts down on prescribed pathways inherent in the line + ladder method, while also maintaining a (though somewhat shorter) reach out into the "countryside."

However, my proposal does not simply suggest a reliance on this system and the central corridor; as previously mentioned, I allocate agriculture and industry zones throughout the remaining land area of the state. In order to create an effective system, everything cannot be connected solely through the line + grid system, which brings the reintegration of the fundamental "Pieces" back into the urban fabric.

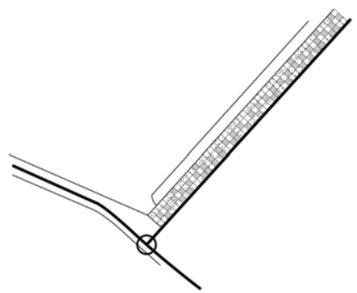
Une Cite Industrielle
Tony Garnier

Tony Garnier's proposal, Une Cite Industrielle, is the first linear city to fall into the Line + Grid category. Like Hilberseimer, although in a more radical execution, Garnier wants to keep industrial production away from residences and the core urban fabric, seperating the "dirty" and polluting process from where the people are. The way he does this is the main downfall of the scheme, because it breaks down the linear city aspect; there are two almost independent rail systems and routes, and possibility for disconnect between industrial production and the city. The overall scheme though has many benefits, keeping the buildings predominantly low rise, even though it is a very dense urban fabric. It also puts leisure program nearby for escape from the city conditions. The grid is the clear overarching structure, and adjusts its distance from the core based on the siting/context. This scheme surprisingly did not take the new modernist style of buildings for the cityscape, and instead featured predominantly vernacular forms for housing.

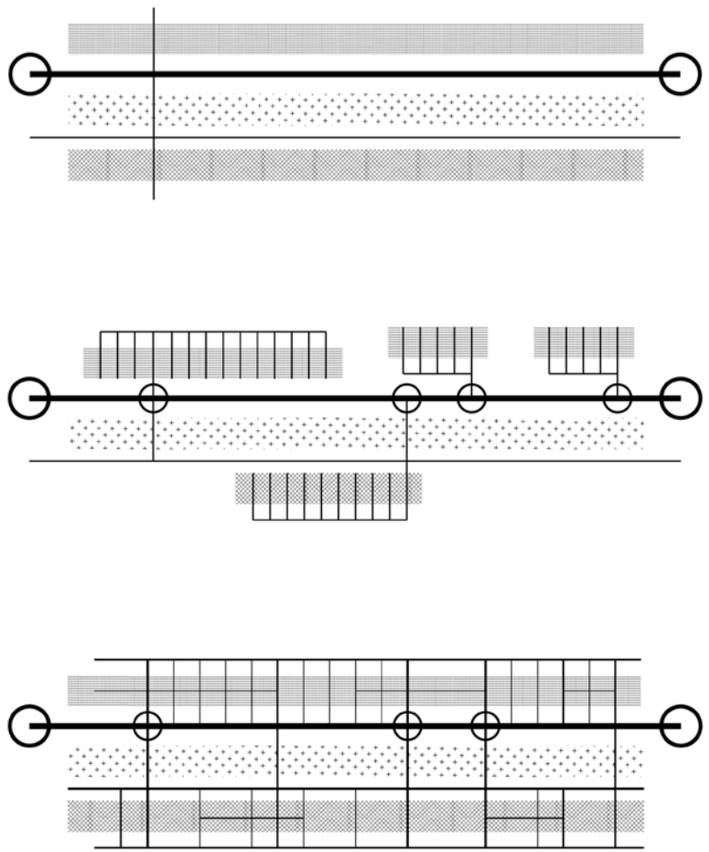


Magnitogorsk
Ivan Leonidov

Ivan Leonidov's proposal for Magnitogorsk is the best example of the Line + Grid linear city paradigm. While it does have its drawbacks, it most clearly exemplifies the key aspects of the scheme and sets itself apart from any other linear city plans. The use of the grid in this scheme allows Leonidov to accomplish many of Hilberseimer's, Milutin's, and Garnier's goals. The grid allows for him to mix high-rise, mid-rise and low-rise buildings withing a field of greenspace. The programs all receive enough light and air due to spacing. The planning is also extremely heterogenous. There are a few principles that guide development, but overall this scheme feels the most organic and improvised, allowing for interesting programmatic adjacencies and interactions. The biggest pros and cons come from this plan's circulation. The main issue is that the grid still functions as an offshoot of the main line, reaching out cross axially. This limits ease of transportation through the territory as well as the movement and division of goods and people. However, the grid as a circulation system allows easy transit from any one place to another, and even features a branch on the exterior edge to allow people to circumvent large chunks of the gridded system, freeing up more movement.



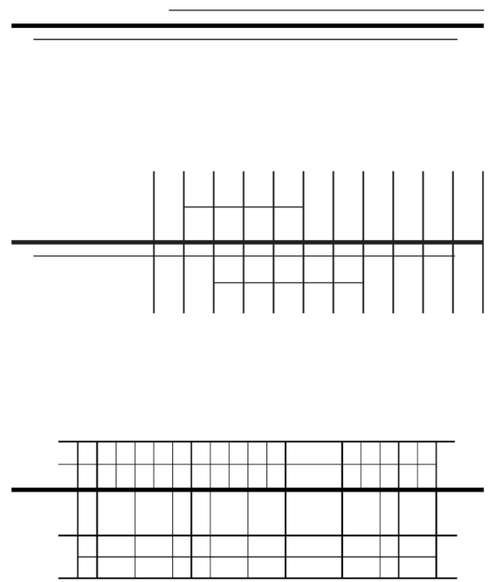
This proposal does not simply suggest a reliance on one of these systems applied along the central corridor; as previously mentioned, the plan for New Jersey allocates agriculture and industry zones throughout the remaining land area of the state. In order to create an effective system, everything cannot be connected solely through the line + grid system, which brings the reintegration of the fundamental “Pieces” back into the urban fabric. The application of the pieces comes from the specific precedents looked at previously, and makes adjustments based on their failures.

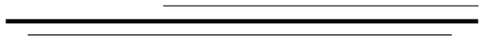


THE PIECES

The pieces described in this section are the building blocks of this urban proposal. Each piece has different pros and cons, and are applicable therefore to different scenarios within the redistributed New Jersey, to make a cohesive and functioning overall system. The pieces are derived directly from the previous sections, and are as follows: the line, the ladder, and the grid.

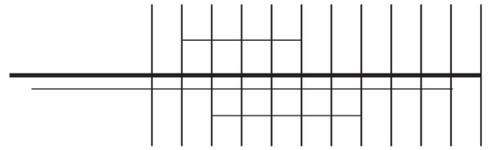
These pieces afe necessary to the proposal because of how they will be implemented into the site in a critical fashion. A key failure by modernism and in fact by many of the architects behind the linear city proposals that were examined was the application of modernist ideals everywhere. Not every area with increased density needs a modernist housing block, not all locations require highway systems and vast expanses of green space.By learning from the previous linear city proposals, as well as learning from the flaws of our current ciries, the pieces outlined in this section can be re-examined to fulfill alternative and benefial roles for the territory.





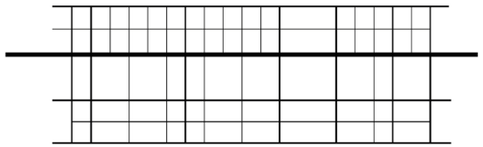
The line has the qualities of the linear city category with the same name; it is a point A to point B piece of infrastructure with program directly attached. As stated previously, this piece can be easily shut down and cause traffic backups or a stop altogether. Therefore, the line should not solely be used for moving goods or people; there has to be multiple options, either constituting a supplementary piece or multiple lines.

This piece can be effectively employed along the main linear city axis as a simple effective way for joining territory, as long as it is paired with the later piece, the grid. It can also be used for the basis to key branches that enter the periphery of the New Jersey territory.



The next piece, the ladder, is a vital piece due to a reinterpretation of use. Albert Pope denounces the ladder as a piece of the urban fabric, specifically due to its implications for the user, as it becomes an exclusionary and closed system. However, this fragment of the grid can be effective in planning when used in a different context.

This closed system functions well for the consolidation of goods, allowing sources on the branches to feed back into the main cross axis that intersects with the line. As long as this piece is not used for the organization or movement of people and it feeds back to the reformatted linear city, the ladder can be implemented to effectively structure certain processes. This would be applied when reaching out into the agriculture and industry zones to move goods back to the central corridor. adaptively sustaining the redensification of the state.



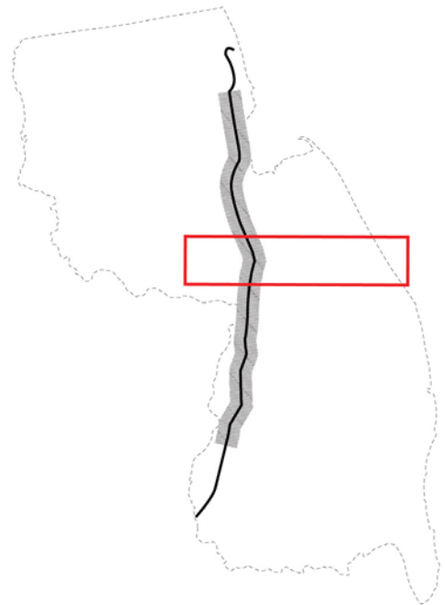
The final piece, the grid, is a necessary form for the organization of the linear city. Its openness of circulation and its ambiguous nature hosting heterogeneous programming makes it a vital addition to the first piece placed, the line. This grid will therefore be applied to the new corridor to promote an urban fabric capable of adaptively sustaining the redensification of the territory. However, when applying this in practice it is important to make sure the grid does not become adapted to any closed system. Also, with a consideration of current cities, there must be a max width that the grid expands off of the line in either direction so there remains convenient and effective access to the central infrastructural line.

Between the linear city examples and the analysis of urban forms by Albert Pope, there is evidently a toolkit to be used to reformat the territory in question. However, the use of this toolkit is of vital importance due to the context of this thesis listed at the outset. The replanning of New Jersey here seeks to debunk the notion of cities as the core of development, it seeks to refrain from plain pragmatism and a simple application of band aid solutions to temporarily fix problems, and it seeks to remedy the underlying factors that have driven the territory to its current dystopian condition. The use of these pieces therefore must be specifically choreographed to the issues of the site, and they must follow the uses outlined in the last section, as reinterpretations of their use in past projects to remedy some of their flaws.

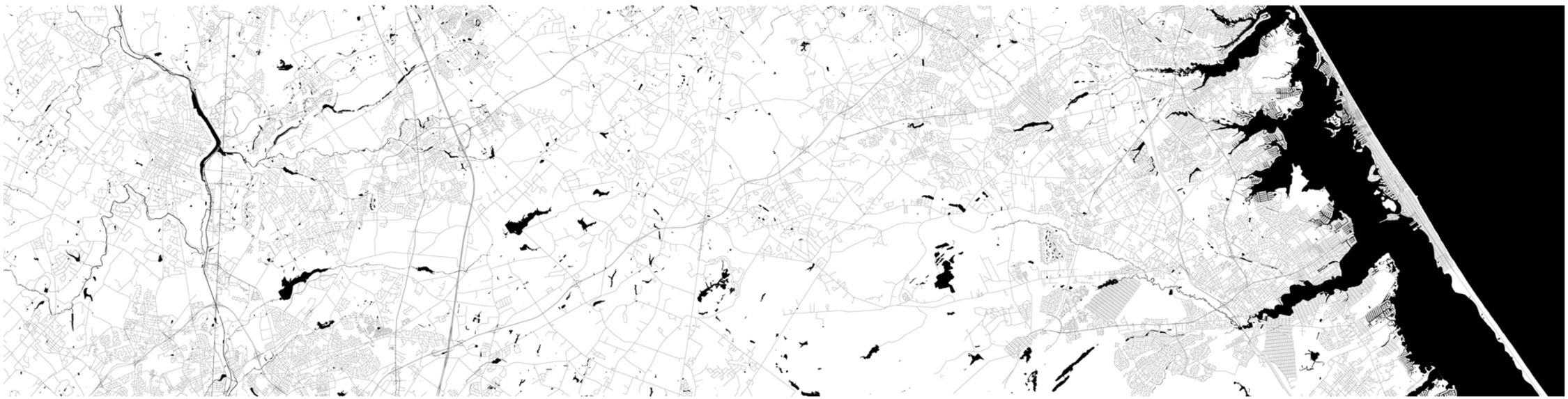
PROPOSAL - L

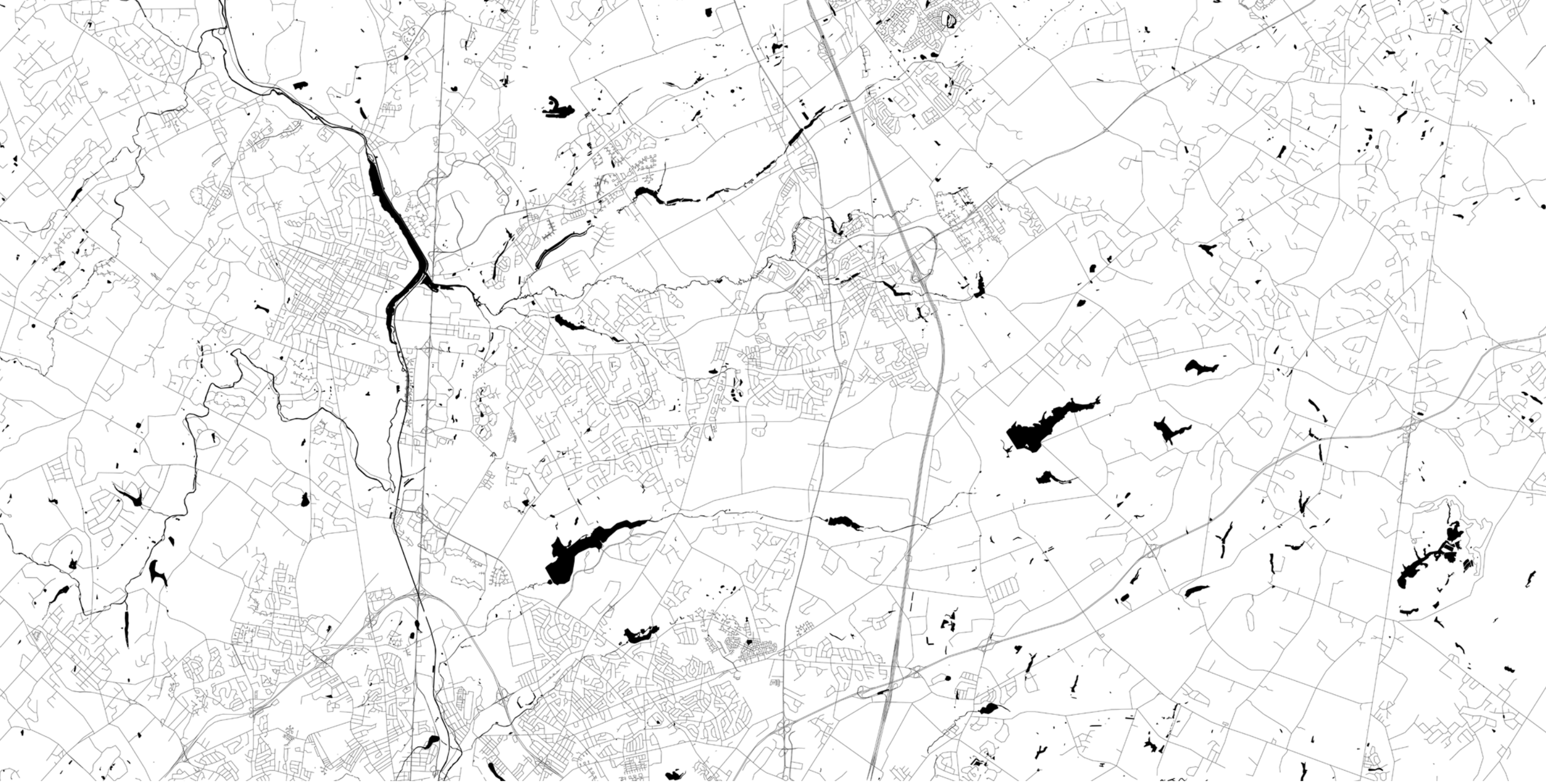
This proposal takes a fraction of New Jersey along the outlined corridor and re-plans it according to the previous principles and pieces. The section taken for this portion of the thesis spans through the Somerset, Mercer, Monmouth, Middlesex and Ocean Counties of New Jersey, and was chosen because it captures the key elements of New Jersey; the coastline, pinelands, suburban sprawl, the (edge of) failed cities, industry, agriculture zones, as well as the key Turnpike corridor.

The existing condition, seen in the next pages, shows two suburban development zones on the periphery of more dense infrastructure located along the coast and the outskirts of Trenton. A few water bodies and small rivers spot the landscape, and some open lots hold pinelands preservation and small agriculture zones.



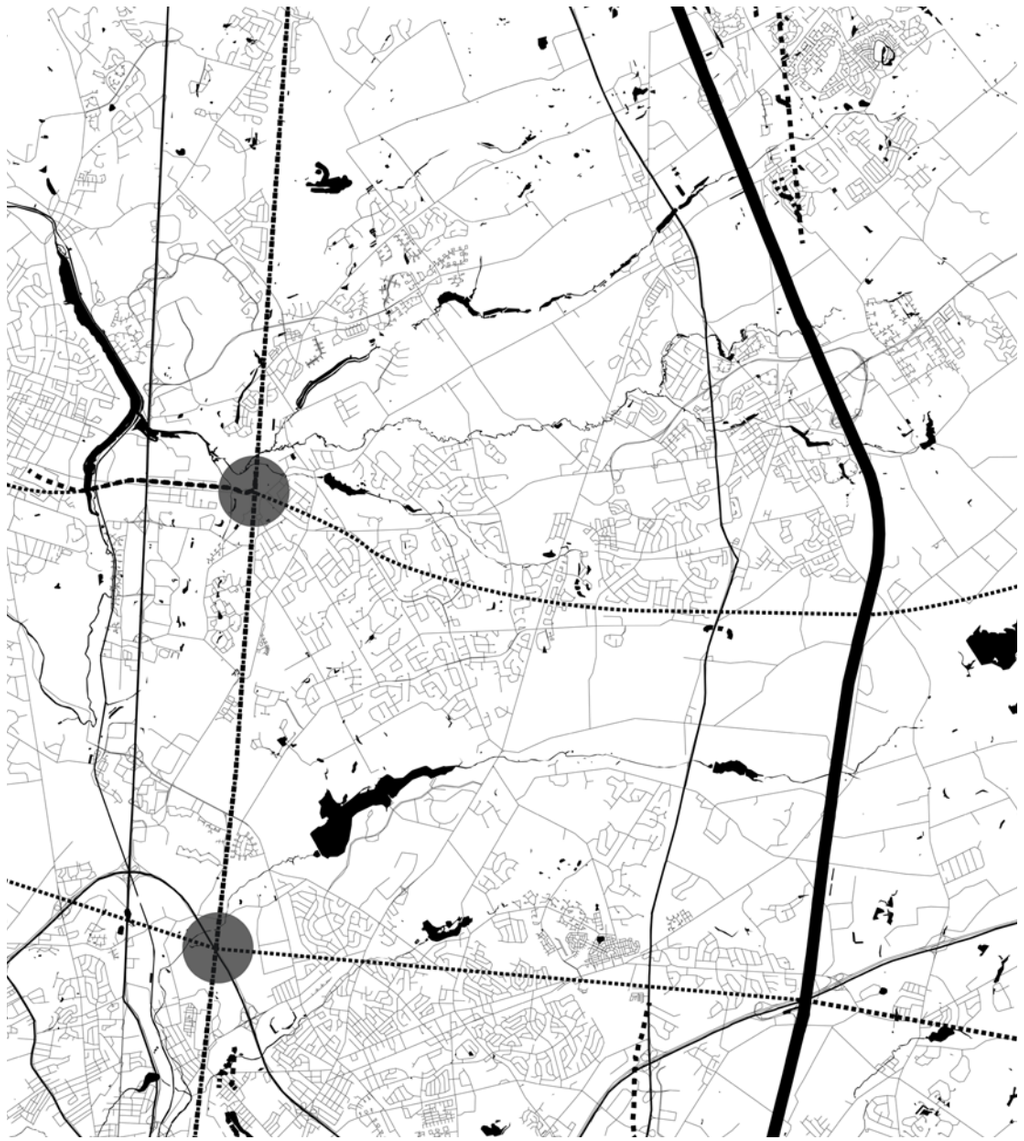
Existing Condition

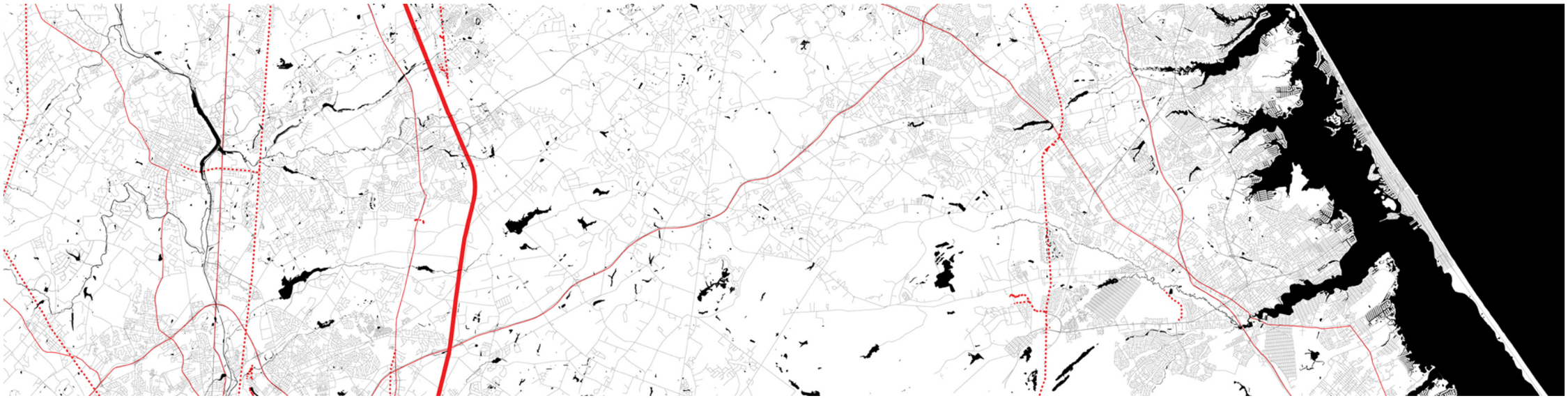


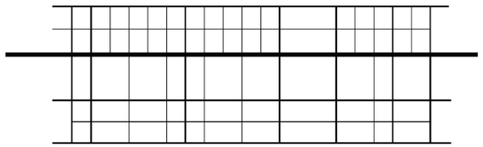


This portion of the proposal begins by applying *The Pieces* with the application of the Line to the site. The line takes the form of the new high speed railway from New York to Philadelphia along the Turnpike. Once this primary circulation path is established, the next step is an investigation of the existing train lines. Some of these segments are then re-appropriated for use within the scheme, starting to create connections into the broader territory where agricultural and industrial program will be allocated. From there, key intersections are noted among this new system, creating locations for ladders to feed back to. This secondary system is then fully linked with the addition of minor railways to the key intersections. The maps on the next page show these two steps, the identification of the existing infrastructure and then highlighting the new system.

Adding Lines



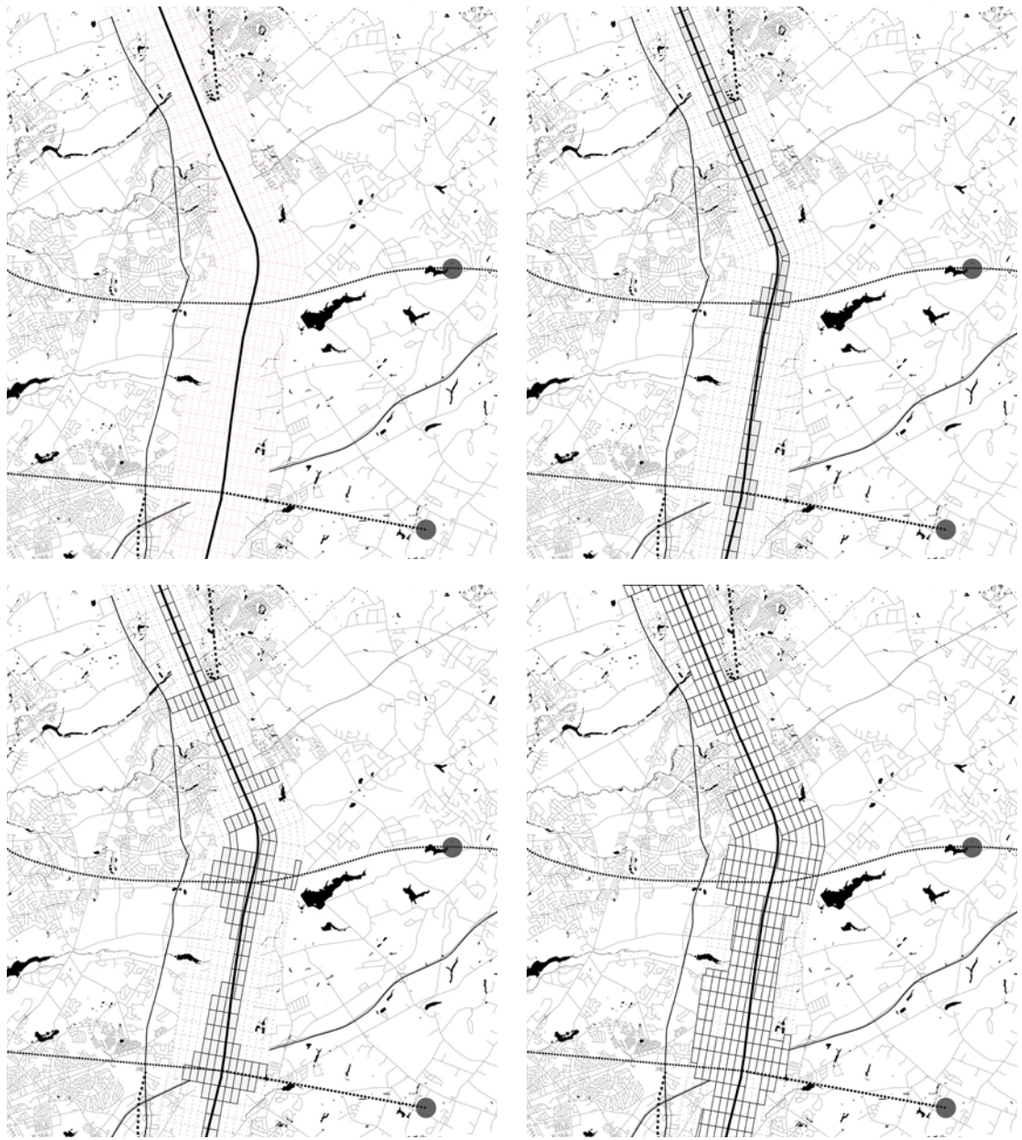




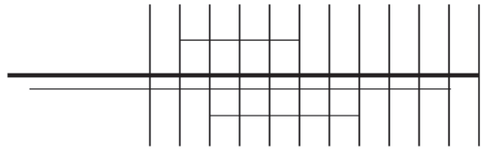
After the line infrastructure is solidified, the next step is adding the grid, which is necessary to expand outward from the main line. This circumvents the issues with the line paradigm by eliminating ease of breakdown and allowing for cross axial connections. The grid is added and set to grow as people are brought in to the new scheme. The gridded spatial field extends two and a half miles to either side, undulating within these parameters as it responds to elements in the context. The limit of the grid's extent is necessary to keep away from current city issues of overexpansion into the field with poor infrastructure to circulate back into the center. The benefit of the grid also extends into the field of Albert Pope's description, as it is capable of hosting heterogenous program, density and openess of built form.

The drawings to the right show the overlay of the grid within the existing site, and the expansion of the system slowly outward as people would begin to populate the new scheme.

Adding The Grid

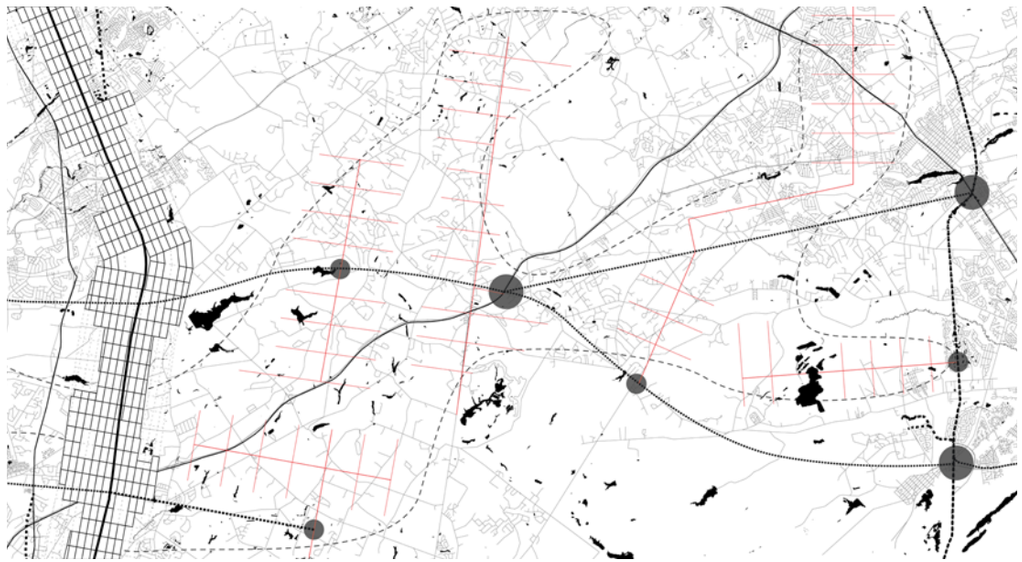


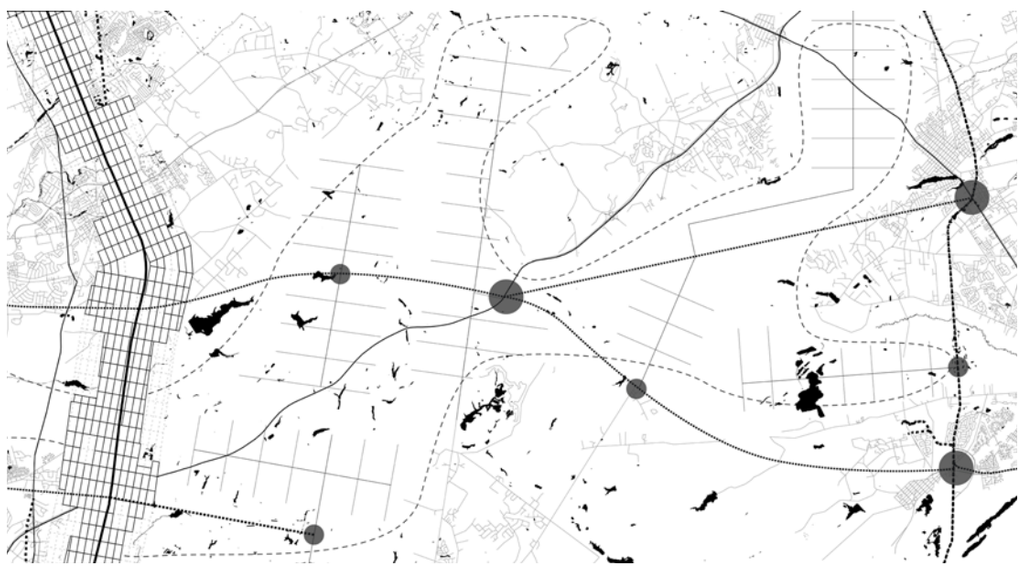
The Grid in this drawing is seen to exist within the existing context. While the area surrounding it will be modified in the next steps, The grid will not simply end at the edge of its field; between the lines that cut through the site with secondary circulation paths, the ladders that will be added next, or existing roads that are not yet cleared out, the grid interacts with them, connecting to their infrastructure and mediating the edge condition.



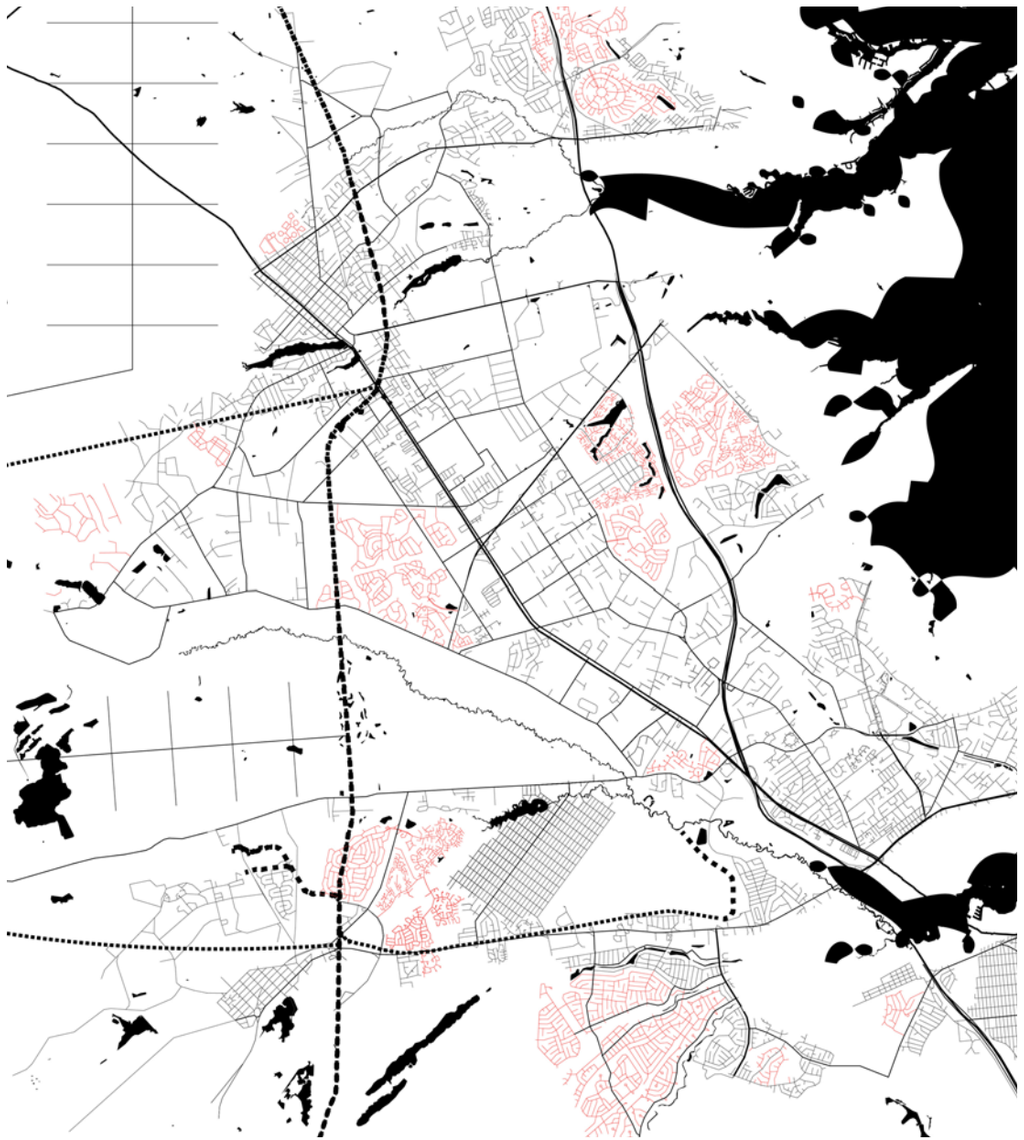
With the grid in place, ladders are then extended into the areas necessary for reclaiming agriculture. These ladders are only used for the movement of goods and solely people who work in agricultural labor, kepping their negative effetcs as pieces of the urban fabric at bay. These closed systems now effectively bring products back along the secondary transportation routes added in the Line step to the main corridor and the grid, for dispersion to the populous.

Adding Ladders

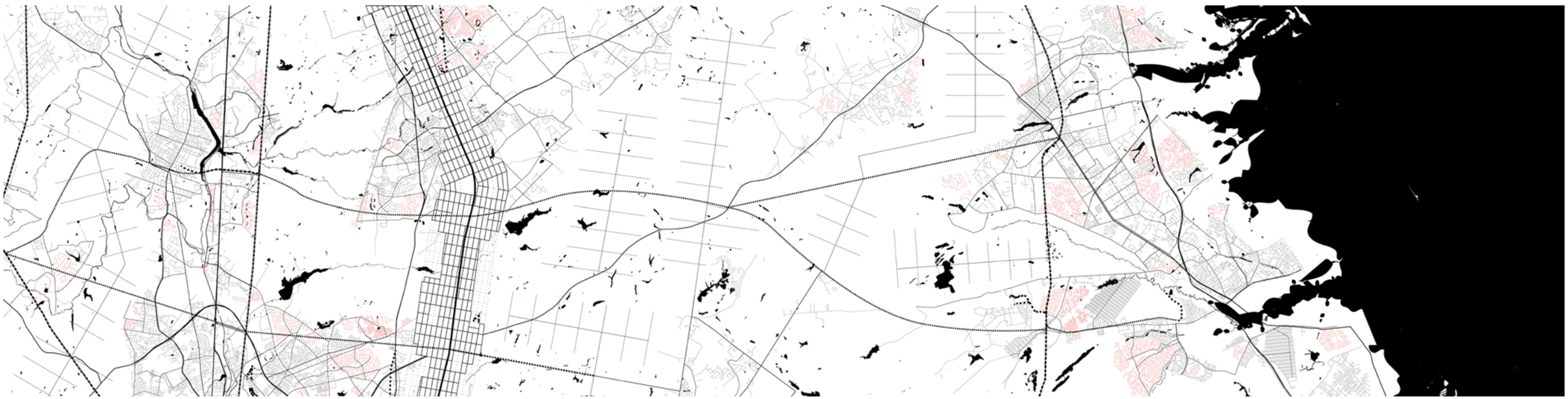


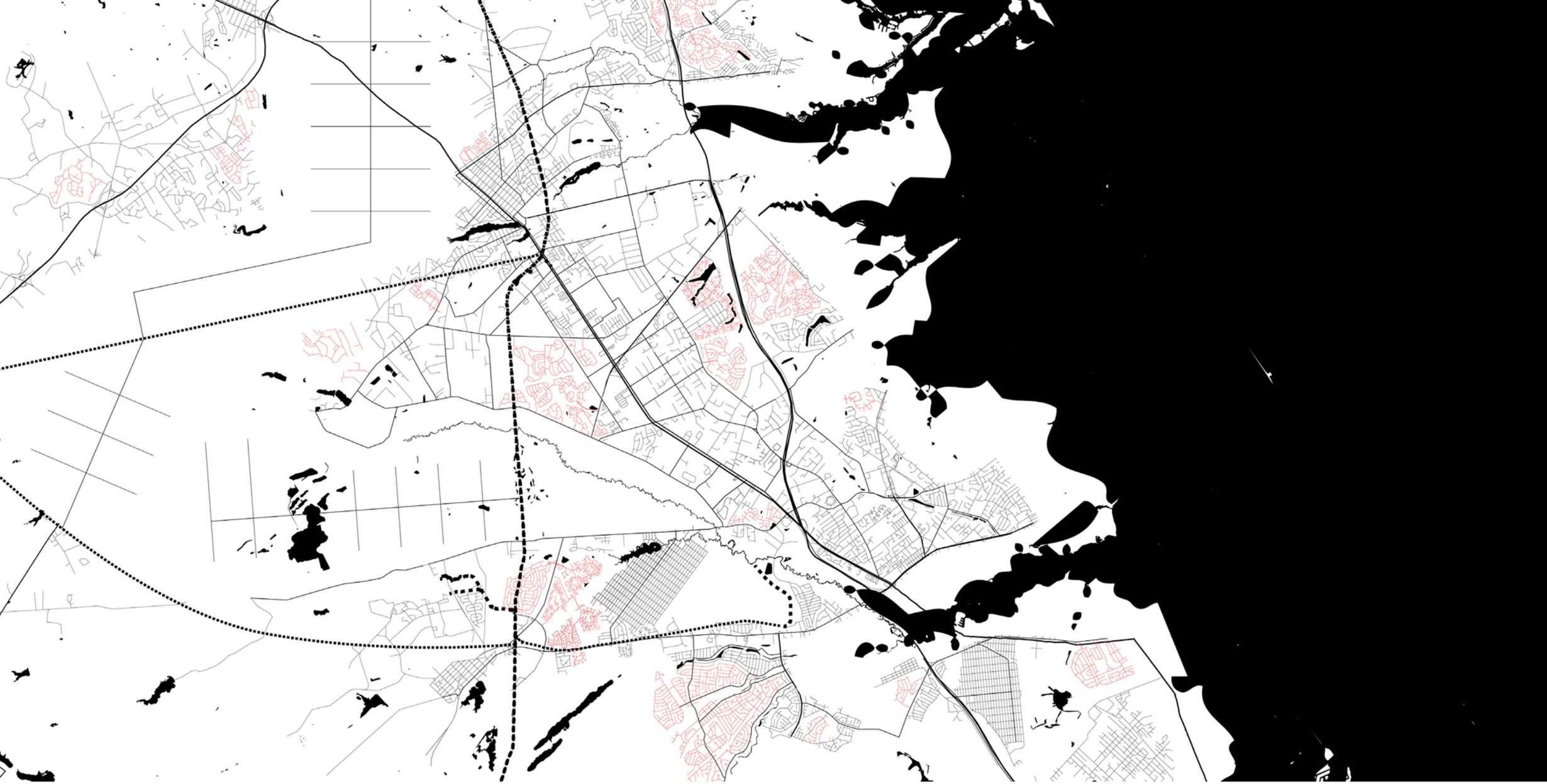


Along the coast, seen on the edge of the drawing, a region is given over to rewilding to assist with the rising sea level and land lost. This is the area devoid of roads and circulation. The final step of this scheme continues to add ladders, but this time based on existing infrastructure to support industry. This step acknowledges the existing roadways within the planned industrial zones and highlights the major routes that will be kept for the movement of goods. These are bolded in the drawing on the right. Then, the sprawl accented in red will be removed and reconfigured for the effective movement of goods back to the primary corridor, piggybacking on the existing system.



Replanned Territory





Now, a new picture of the region is developed, a new hierarchy of movement, with a free, open gridden system along the main corridor, and a takeover of agricultural and industrial production all feeding back into the densified line. The application of different urban pieces derived from Albert Pope and past linear city models produces an amalgamation of urban form. Each piece has been adjusted and used to combat past failures, wether it was used poorly in city planning, modernist development, post-war grid dissolution, or it was a negative aspect of the linear city examples.

The collages on the right show how this proposal will begin to be architecturalized over the existing context of the New Jersey Turnpike, highlighting the main infrastructural corridor and the large open swaths of grid to house heterogenous forms of development.

The next collages show what this landscape would look like in New Jersey, comparing the old view of this sliver of the territory to the redistributed scheme.

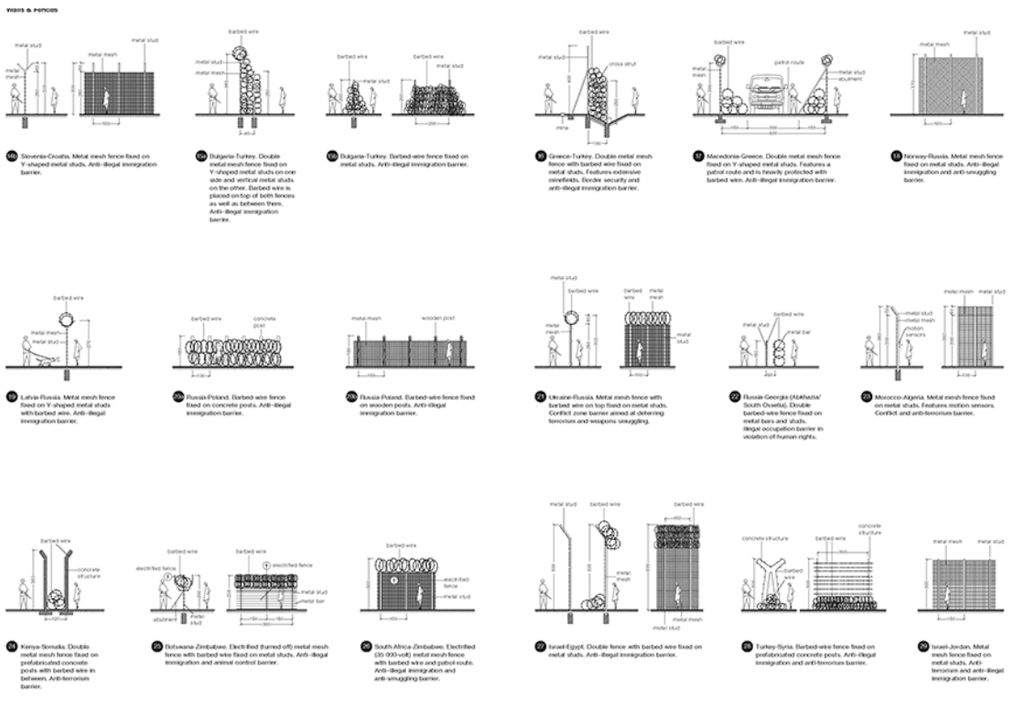
In conclusion, this thesis is an urban planning investigation focused on the sprawl of New Jersey between two urban nodes as an area representative of the dystopia that has been produced in the current age. The reorganization of people using urban planning methodologies based on the linear city model attempts to reinterpret the underlying infrastructural issues that have developed problems in the state and in the country as a whole. I believe the proposal takes significant, necessary steps to avoid the real world, our impending worsening dystopia, as it proposes an alternative look into an area of decline and redistributes the elements of the state to counter the negative forces at play.

What Next?

THE DETAILS

The continuation of this proposal will seek to architecturalize the linear city proposal shown. This will be done through three parts, designing the details, designing the hub, and designing the section. This thesis will investigate infrastructural details and drawings in a similar fashion to the Handbook of Tyranny by Theo Deutinger to design details necessary to the effective construction of a linear city paradigm. By building up from these details, the project will continue to investigate oppositional strategies to our current decline, and propose a transit hub and a large scale section of the line + grid model, exhibiting built form in the same light as the overall urban proposal; a design meant to alleviate the current societal ills caused from underlying planning and development models.

THE DETAILS - S



16 Slovenia-Croatia. Metal mesh fence fixed on Y-shaped metal studs. Anti-illegal immigration barrier.

16A Bulgaria-Turkey. Double metal mesh fence fixed on Y-shaped metal studs on one side and vertical metal studs on the other. Barbed wire is placed on top of both fences as well as between them. Anti-illegal immigration barrier.

16B Bulgaria-Turkey. Barbed-wire fence fixed on metal studs. Anti-illegal immigration barrier.

16 Greece-Turkey. Double metal mesh fence with barbed wire fixed on metal studs. Features extensive minefields. Border security and anti-illegal immigration barrier.

17 Macedonia-Greece. Double metal mesh fence fixed on Y-shaped metal studs. Features a patrol route and is heavily protected with barbed wire. Anti-illegal immigration barrier.

18 Norway-Russia. Metal mesh fence fixed on metal studs. Anti-illegal immigration and anti-smuggling barrier.

19 Latvia-Russia. Metal mesh fence fixed on Y-shaped metal studs with barbed wire. Anti-illegal immigration barrier.

20A Russia-Poland. Barbed-wire fence fixed on concrete posts. Anti-illegal immigration barrier.

20B Russia-Poland. Barbed-wire fence fixed on wooden posts. Anti-illegal immigration barrier.

21 Ukraine-Russia. Metal mesh fence with barbed wire on top fixed on metal studs. Conflict zone barrier aimed at deterring terrorism and weapons smuggling.

22 Russia-Georgia (Abkhazia/ South Ossetia). Double barbed-wire fence fixed on metal bars and studs. Illegal occupation barrier in violation of human rights.

23 Morocco-Algeria. Metal mesh fence fixed on metal studs. Features motion sensors. Conflict and anti-terrorism barrier.

24 Kenya-Somalia. Double metal mesh fence fixed on prefabricated concrete posts with barbed wire in between. Anti-terrorism barrier.

25 Botswana-Zimbabwe. Electrified (turned-off) metal mesh fence with barbed wire fixed on metal studs. Anti-illegal immigration and animal control barrier.

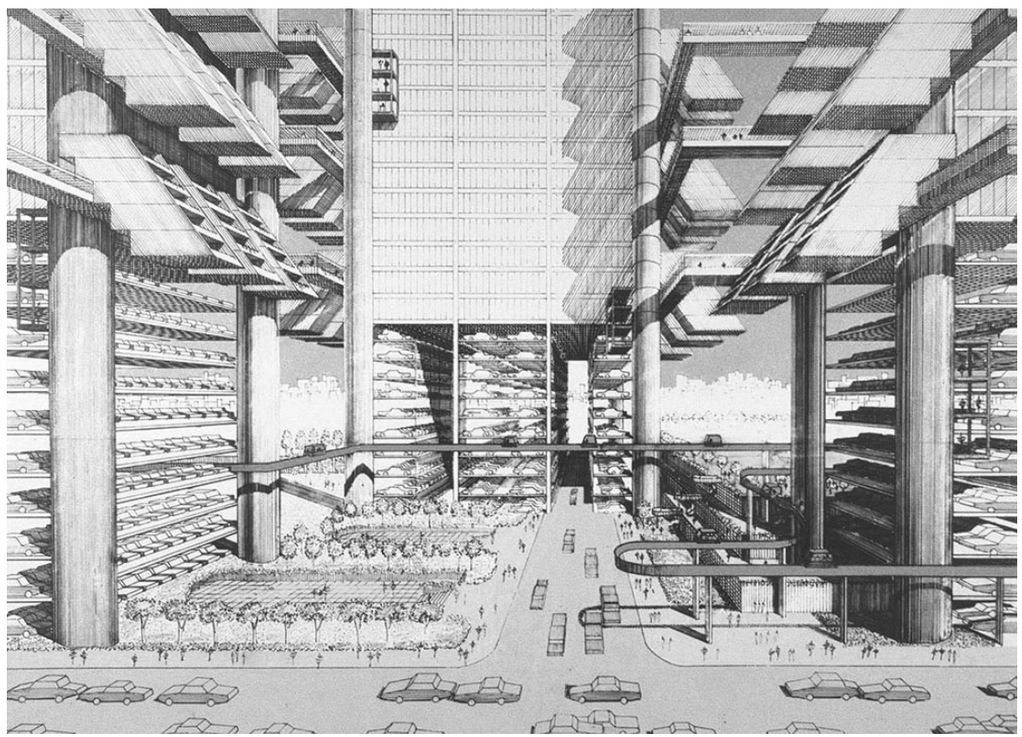
26 South Africa-Zimbabwe. Electrified (35 000-volt) metal mesh fence with barbed wire and patrol route. Anti-illegal immigration and anti-smuggling barrier.

27 Israel-Egypt. Double fence with barbed wire fixed on metal studs. Anti-illegal immigration barrier.

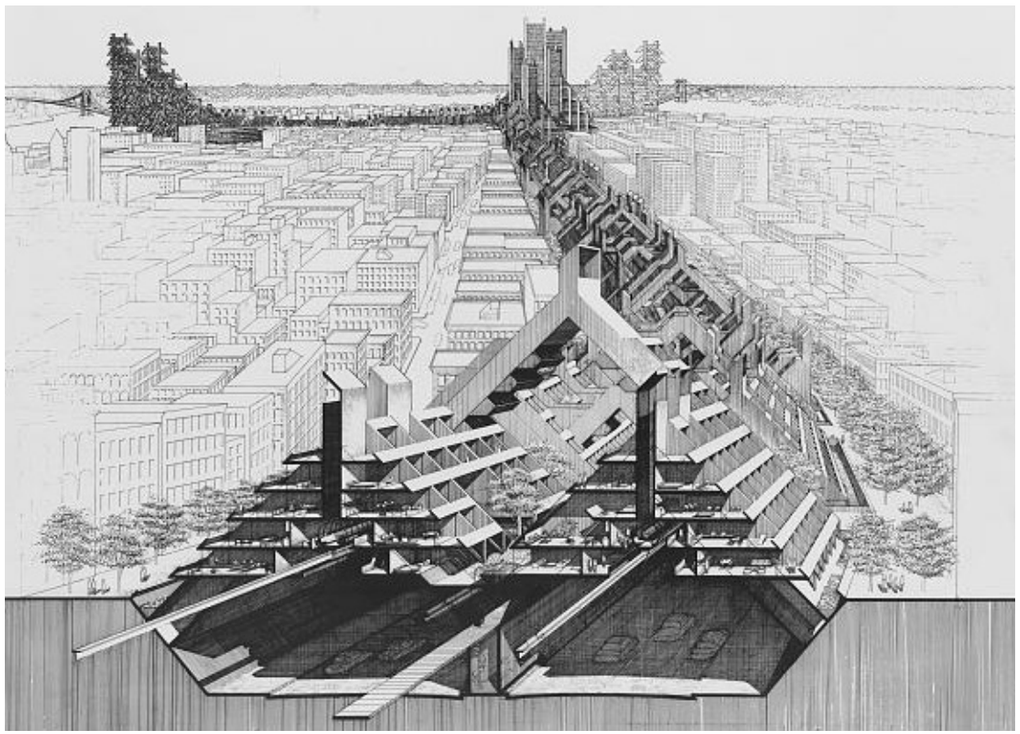
28 Turkey-Syria. Barbed-wire fence fixed on prefabricated concrete posts. Anti-illegal immigration and anti-terrorism barrier.

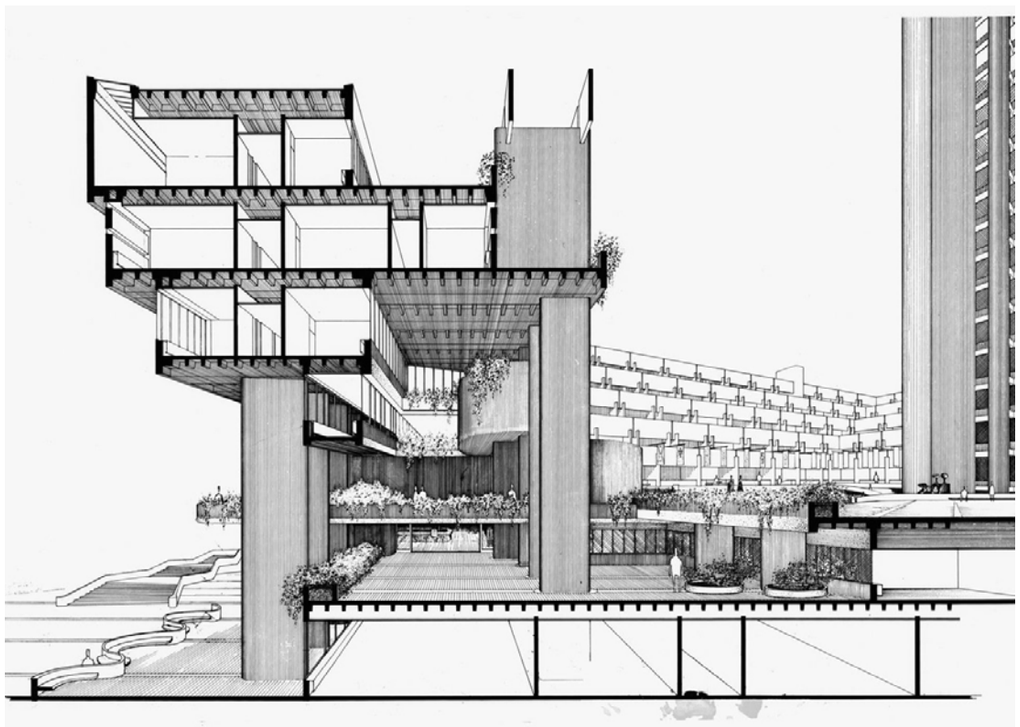
29 Israel-Jordan. Metal mesh fence fixed on metal studs. Anti-terrorism and anti-illegal immigration barrier.

THE HUB - M



THE SECTION - M





REFERENCES

PRINT

Ballard, J. G. *High Rise*. New York: Liveright Publishing Corporation, 1975. Print.

Benjamin, Walter. "Paris - Capital of the Nineteenth Century." *New Left Review* I/48, March-April, 1968.

Berardi, Franco. "Futurability Map: Reframing the Conceptual Couple Utopia/Dystopia." *Utopia/Dystopia.* Mousse Publishing, 2017. Print.

Bertolini, David. " Kant, Sade, Ethics and Architecture." *Architecture Post Mortem.* New York: Ashgate Publishing, 2013. Print.

Braidotti, Rosi. "Affirmative Ethics, Sustainable Futures." *Utopia/Dystopia.* Mousse Publishing, 2017. Print.

Brenner, Neil. "Introduction: Urban Theory Without an Inside." *Implosions / Explosions.* Jovis Publishers, 2014. Print.

Brenner, Neil. "What is critical urban theory?" City, Vol. 13, No. 2-3, June-September 2009. Routledge.

Claeys, Gregory. *Dystopia: A Natural History.* New York: Oxford University Press, 2017. Print.

Coleman, Nathaniel. "Building Dystopia." Newcastle University.

Collins, George R. "Linear Planning Throughout the World." Vol. 9, No. 54, April 1960, pp. 240-253. JSTOR.

Constant, Caroline. "Hilberseimer and Caldwell." *CASE: Hilberseimer/Mies van der Rohe Lafayette Park Detroit.* Waldheim, Charles. Prestel Publishing, 2004.

Deutinger, Theo. *Handbook of Tyranny*. Zurich: Lars Müller Publishers, 2018. Print.

Easterling, Keller. "Impossible." *Utopia/Dystopia*. Mousse Publishing, 2017. Print.

Foucault Michel, "Of Other Spaces: Utopias and Heterotopias," *Architecture, Mouvement, Continuité,* October 1984.

Fourier, Charles. "New Material Conditions." *The Utopian Vision of Charles Fourier: Selected Texts on Work, Love, and Passionate Attraction*, Jonathan Beecher and Richard Bienvenu. Boston: Beacon, 1972. PDF.

Gadanho, Pedro. "Utopia/Dystopia: A Brief History of an Uncomfortable Duality." *Utopia/Dystopia*. Mousse Publishing, 2017. Print.

Ghosn, Rania and El Hadi Jazairy. *Geostories.* New York: Actar Publishers, 2018. Print.

Hartoonian, Gevork. "Progress: Re-Building the Ruins of Architecture." *Architecture Post Mortem*. New York: Ashgate Publishing, 2013. Print.

Harvey, David. *Spaces of Hope.* Edinburgh University Press, 2000.

Holl, Steven. *Pamphlet Architecture #13: Edge of a City*. New York: Princeton Architectural Press, 1991. Print.

Marx, Karl and Frederick Engels. *Communist Manifesto.* New York: Prometheus Books, 1988. Print.

Moore, Alan and Dave Gibbons. *Watchmen*. DC Comics, 1986. Print.

Moore, Alan and David Lloyd. *V for Vendetta*. DC Comics, 1989. Print.

More, Thomas. *Utopia*. New York: Penguin Books, 2003. Print.

Pope, Albert. *Ladders*. New York: Princeton Architectural Press, 1996. Print.

Rice, Johnathan. *Farewell, My Dudes: 69 Dystopian Haikus.* Los Angeles: Hat & Beard Press, 2017. Print.

Tafuri, Manfredo. *Architecture and Utopia*. Cambridge: The MIT Press, 1976.

Waldheim, Charles. "Weak Work: Andrea Branzi's 'Weak Metropolis' and the Productive Potential of an 'Ecological Urbanism.'"

WEB

Ahmed, Nazeef. " This is how UN scientists are preparing for the end of capitalism." *The Independent.* 12 September 2018. Web.

Amadeo, Kimberly. "Late Stage Capitalism, It's Characteristics, and Why the Term's Trending." *The Balance*. 24 August 2018. Web

Anderson, Darren. "Future Shock in the Countryside." *The Atlantic*. 2 November 2018. Web.

Astudillo, Carla. "4 big ways that New Jersey's demographics are changing." *NJ Advance Media*. NJ.com, 10 December 2016. Web

Dobbin, Murray. "The Crisis of Extreme Capitalism." *The Tyee*. The Tyee, 15 July 2013. Web.

Fatton, Dan. "Trends in New Jersey Land Use." New Jersey Trends. November 2011. Web.

Hughes, James W. and Joseph J. Seneca. "The State's Many Economic Transformations." *New Jersey Business.* New Jersey Business and Industry Association, 6 March 2014. Web.

Mansnerus, Laura. "New Jersey Is Running Out Of Open Land It Can Build On." *New York Times.* 24 May, 2003. Web.

McLaughlin, John, et al. "New Jersey." *Encyclopedia Britannica*. Encyclopedia Britannica, Inc, 2018. Web.

"New Jersey Key Industry Clusters." Office of Labor Planning and Analysis. Web.

"New Jersey Population 2018." World Population Review. September 2018. Web.

United States Census Beureau. 2017.

FILM

Blade Runner. Directed by Ridley Scott, Warner Bros. Entertainment Inc, 25 June 1982.

Children of Men. Directed by Alfonso Cuarón, Strike Entertainment, 5 December 2006.

Blade Runner 2049. Directed by Denis Villeneuve, Warner Bros. Entertainment Inc, 6 October 2017.

Snowpiercer. Directed by Bong Joon-ho, Stillking Films, 1 August 2013.

PROJECT

Howard, Ebenezer. *Garden City*. 1902.

Hilberseimer, Ludwig. *Vertical City*. 1924.

Wright, Frank L. *Broadacre City.* 1932.

Rudolph, Paul. *Lower Manhattan Expressway.* 1971.

Dogma & OFFICE. *A Grammar for the City.* 2005.

Dogma. *Stop City*. 2008.

Ford, Henry. *Fordlandia*. 1927. Aveiro, Brazil.

Le Corbusier. *Chandigarh City Plan.* 1947. Chandigarh, India.

Smithson, Alison and Peter. *Robin Hood Gardens.* 1972. London, England.

Soria y Matta, Arturo. *Ciudad Lineal*. 1895.

Garnier, Tony. *Une Cite Industrielle*. 1904.

Chambless, Edgar. *Roadtown*. 1910.

Milutin, N.A. *Linear City on the Volga River*. 1929.

Leonidov, Ivan. *Magnitogorsk.* 1930.

Le Corbusier. *Algiers Plan*. 1933.

Le Corbusier. *La Cité Linéaire Industrielle*. 1938.

MARS. *Plan for London*. 1942.

Hilberseimer, Ludwig. *The Settlement Unit.* 1944.

Hilberseimer, Ludwig. *Replanning Rockford Illinois*. 1950.

Graves, Michael. *New Jersey Corridor Project.* 1965.

TO BE CONTINUED...

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